

A photograph of a person from the back, wearing a white cervical collar. The person has dark hair tied back. In the blurred background, a hospital room is visible with other patients and medical staff.

Chapter 12

Injury and Exposure to Violence



Injury and Exposure to Violence

Injury consists of bodily harm resulting from an individual's actions or inflicted by external agents. Injuries are broadly classified into two categories, intentional and unintentional, which reflect the manner by which an injury occurs. Intentional injuries result from all forms of physical violence (i.e., the use of physical force with the intention of causing death, disability, injury, or harm) (1). Unintentional injuries, historically called "accidents," are the result of unplanned events, many of which are preventable (2). The mechanisms that deliver the injury (e.g. falls, poisonings, and motor vehicle crashes) are often referred to as the cause of the injury. Injuries can also be described by the injured body part or location of the injury (e.g. head injury or traumatic brain injury).

Living in a community with high levels of physical violence and intentional injury can cause people to feel perpetually unsafe and can negatively impact their health. Not feeling safe can lead to prolonged anxiety and depression, less physical activity, and increased social isolation and community distrust (3, 4). Unfortunately, many Boston residents don't feel fully safe in their own neighborhoods. In 2015, 56% of Boston adults reported feeling their neighborhood was only somewhat safe or not safe at all (Figure 12.1). In 2012, 26% of Boston parents reported that they felt their children were sometimes or never safe in the neighborhood in which they live and play (5).

Intentional Injury/Violence

As stated above, intentional injuries largely result from violence. People of color, women, youth, and people living in low-income communities suffer more physical violence and intentional injury (1). For example, in Boston, Black and Latino residents have higher assault-related injury rates compared with White residents (Figure 12.51 and 12.54). In Boston, as in the United States, Black and Latino individuals also have much higher homicide rates compared with White individuals (6). Violence most often occurs in areas of chronic poverty, community disorganization, and low school connection – in areas where violence seems "normal." Violent acts can be learned behavior in response to environmental influences and social norms. For example, many adolescents who commit violent crimes have previously been victims of violence themselves (7, 8), but this type of behavior can be reversed or not learned at all (9).

Continual exposure to violence, both at home (including on television) and in the community, can lead to desensitization (9-11). Studies have shown that as children are bombarded with images of violence, they are less able to process the information in healthy ways. Internalized stress and conflict may then lead directly to aggression or manifest indirectly in other harmful ways, including substance misuse, learning problems, prolonged anxiety, depression, and disordered eating habits and obesity (12, 13).

Once violence is internalized, adolescents may feel less able to resist pressure from their peers to engage in gang violence, drug use, or petty crime; all of which may further discourage the development of healthy relationships and academic achievement (13, 14). In this manner, violence acts as a contagious infection, spreading through social relationships. One study found youth ages 12-18 were more likely to have been involved in a serious fight if their friends had also been involved in a serious fight. The investigators observed this association up to four degrees of separation (i.e. from friend of friend of friend of friend) (15).

Violence prevention requires comprehensive solutions coming from multiple stakeholders and sectors: public health, law enforcement, the healthcare community, schools, and community-based organizations. Most importantly, prevention efforts must include the families and neighborhoods that are most affected and hold the most power to positively change their environments.

Prevention efforts can focus on the individual-level by helping individuals develop skills to avoid or mitigate violence and on the community-level by strengthening community linkages to create more protective systems (16-18). For instance, school-based programs that reduce aggression by promoting self-knowledge and social skills have been shown to decrease rates of violence among school-aged children and youth (17, 18). Stopping the cycle of violence also requires changing the social environment in which people live and societal structures such as racism and poverty that inadvertently serve to perpetuate violence. For example, the impact of institutionalized racism within the U.S. educational

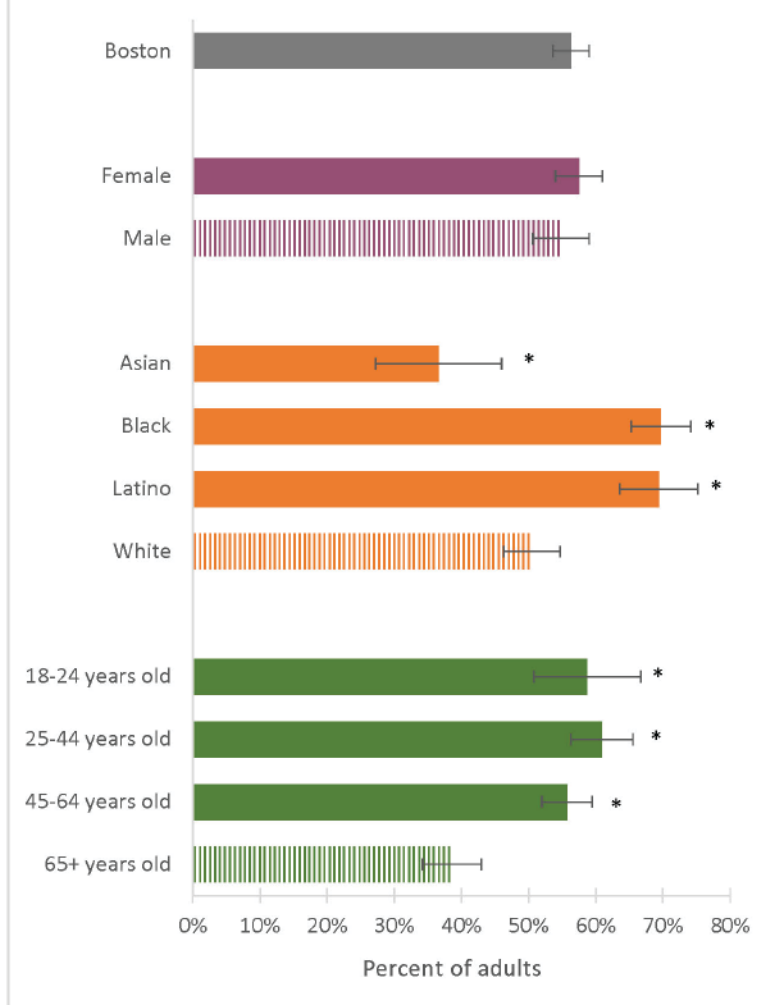
system results in children of color being taught, on average, by less experienced teachers, not having as much access to advanced level courses, and being punished more harshly for the same behaviors as White students. These types of experiences or lack of experiences may contribute to higher high school dropout rates among youth of color, which, in turn, leads to higher rates of unemployment, poverty, and crime, including violent crime resulting in injury (19, 20).

Unintentional Injury

In the U.S., unintentional injuries (including accidental poisonings, motor vehicle crashes, and accidental drowning) were collectively the leading cause of death for individuals ages 1-44 in 2015 (21). Unintentional injuries severely impact older Americans as well. In 2015, approximately 3 million individuals ages 65 and older are treated in emergency departments for fall injuries (22).

Unintentional injuries are considered preventable because the risk of injury is influenced by individual-level factors as well as social, economic, and environmental conditions, and these factors/conditions can be modified (23). For example, communities can reduce injuries to pedestrians, bicyclists and motor-vehicle occupants by creating safer roads and enforcing speed limits (24). Various modifications to the home structure can further protect individuals from unintentional injury within the home. For example, railings and ramps help protect against fall-related injuries among elderly residents (25). Improvements to environmental design, human behavior, education, legislative policy, and regulatory requirements can all help to reduce the levels of unintentional and intentional injuries (2).

Figure 12.1 Adults Who Thought Their Neighborhood Was Not Safe¹, 2015



* Statistically significant difference when compared to reference group

¹ Adults reported that they considered their neighborhood "somewhat safe" or "not safe"

NOTE: Bars with patterns indicate the comparison group within each selected indicator.

DATA SOURCE: Boston Behavioral Risk Factor Survey (2015), Boston Public Health Commission

In 2015, 56% of Boston adult residents felt their neighborhood was either somewhat safe or not safe.

The percentage of residents who felt their neighborhood was unsafe was higher for the following groups:

- Black (70%) and Latino (69%) adults compared with White adults (51%)
- Adults ages 18-24 (59%), 25-44 (61%), and 45-64 (56%) compared with those ages 65 and older (39%)

The percentage of adults who felt their neighborhood was unsafe was lower for the following groups:

- Asian adults (37%) compared with White adults (51%)



For 2013 and 2015 combined, 11% of Boston adult residents reported experiencing physical or sexual violence in their lifetime.

Lifetime violence was higher for the following groups:

- Females (15%) compared with males (7%)
- Adults ages 45-64 (13%) compared with those ages 65 and older (10%)

Lifetime violence was lower for the following groups:

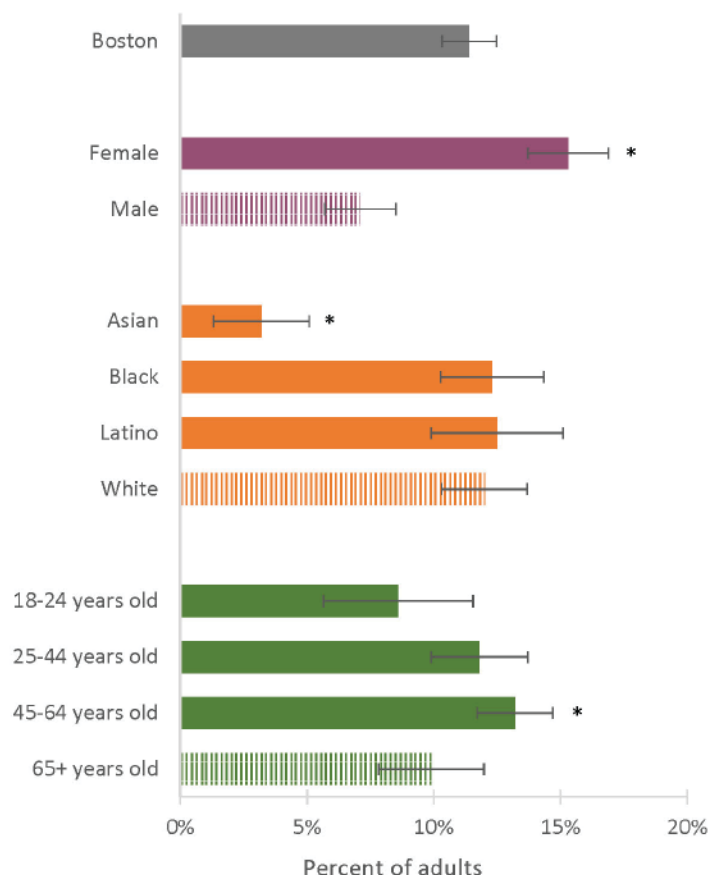
- Asian adults (3%) compared with White adults (12%)

According to the Committee on National Statistics and the Bureau of Justice Statistics, the majority of sexual assaults are not reported.^{1,2}

¹ http://sites.nationalacademies.org/cs/groups/dbasseite/documents/webpage/dbasse_085943.pdf

² <https://www.bjs.gov/content/pub/pdf/vnrp0610.pdf>

Figure 12.2 Adults Who Experienced Physical or Sexual Violence in Their Lifetime by Selected Indicators, 2013 and 2015 Combined

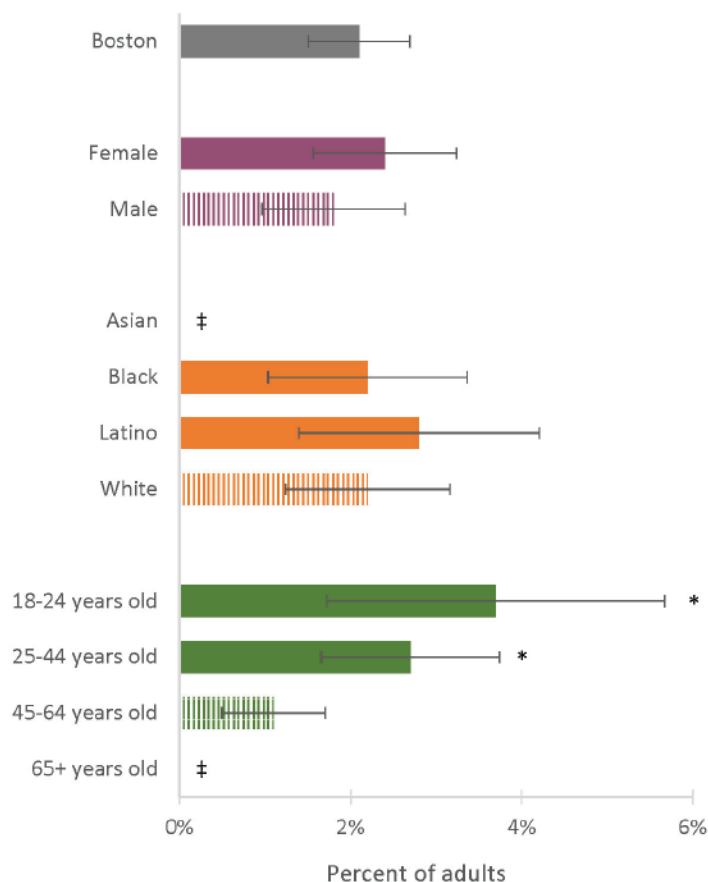


* Statistically significant difference when compared to reference group

NOTE: Bars with patterns indicate the comparison group within each selected indicator.

DATA SOURCE: Boston Behavioral Risk Factor Survey (2013, 2015), Boston Public Health Commission

Figure 12.3 Adults Who Experienced Physical or Sexual Violence in the Past 12 Months by Selected Indicators, 2013 and 2015 Combined



* Statistically significant difference when compared to reference group

Data not presented due to insufficient sample size

NOTE: Bars with patterns indicate the comparison group within each selected indicator.

DATA SOURCE: Boston Behavioral Risk Factor Survey (2013, 2015), Boston Public Health Commission

For 2013 and 2015 combined, 2% of Boston adult residents reported experiencing physical or sexual violence in the past twelve months. Violence in the past year was higher for adults ages 18-24 (4%) and 25-44 (3%) compared with those ages 45-64 (1%).

In 2015, 7% of Boston adult residents reported having been sexually assaulted in their lifetime.

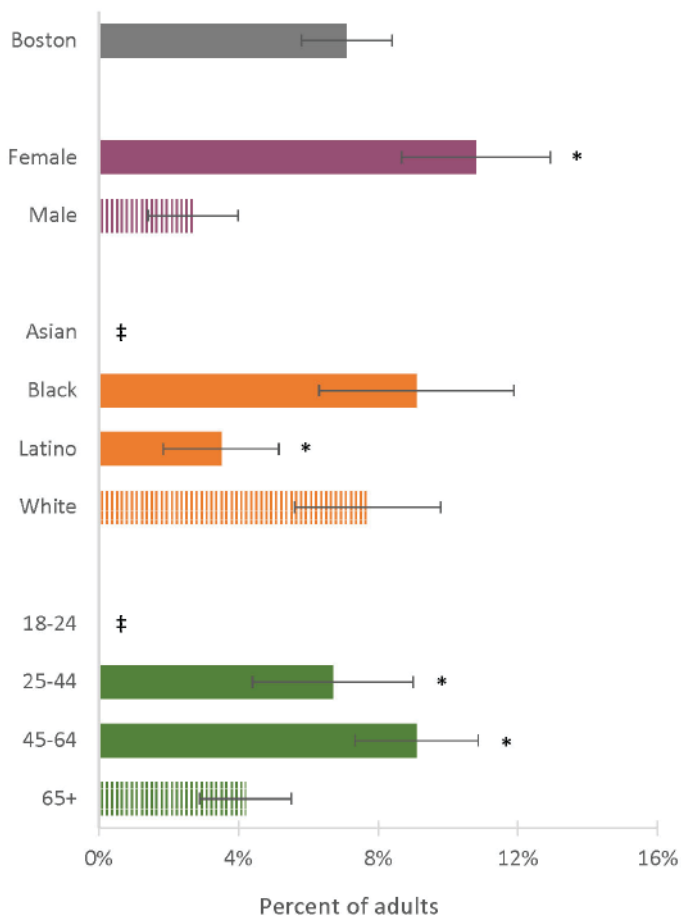
Lifetime sexual assault was higher for the following groups:

- Females (11%) compared with males (3%)
- Adults ages 25-44 (7%) and 45-64 (9%) compared with those ages 65 and older (4%)

Lifetime sexual assault was lower for the following groups:

- Latino adults (4%) compared with White adults (8%)

Figure 12.4 Adults Who Were Sexually Assaulted in Their Lifetime by Selected Indicators, 2015



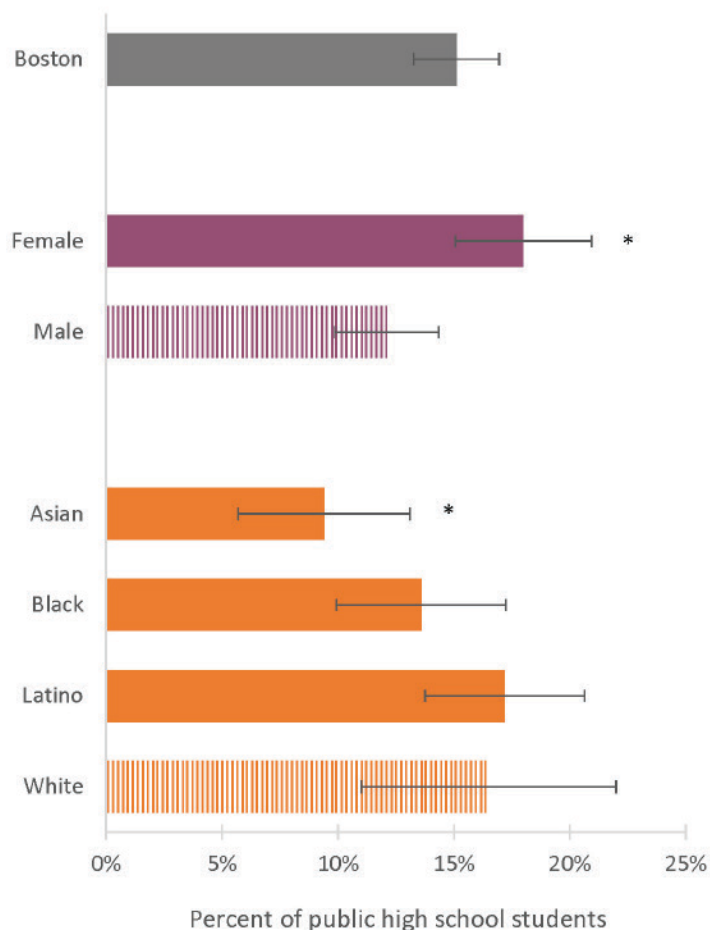
* Statistically significant difference when compared to reference group

‡ Data not presented due to insufficient sample size

NOTE: Bars with patterns indicate the comparison group within each selected indicator.

DATA SOURCE: Boston Behavioral Risk Factor Survey (2015), Boston Public Health Commission

Figure 12.5 Bullied at School or Electronically in the Past 12 Months by Selected Indicators, 2015



* Statistically significant difference when compared to reference group

NOTE: Bars with patterns indicate the comparison group within each selected indicator.

DATA SOURCE: Youth Risk Behavior Survey, 2015, Centers for Disease Control and Prevention

In 2015, 15% of Boston public high school students reported being bullied, either at school or electronically, in the past 12 months. Bullying in the past year was higher for female students (18%) compared with male students (12%), and lower for Asian students (9%) compared with White students (17%).

Adolescent Bullying

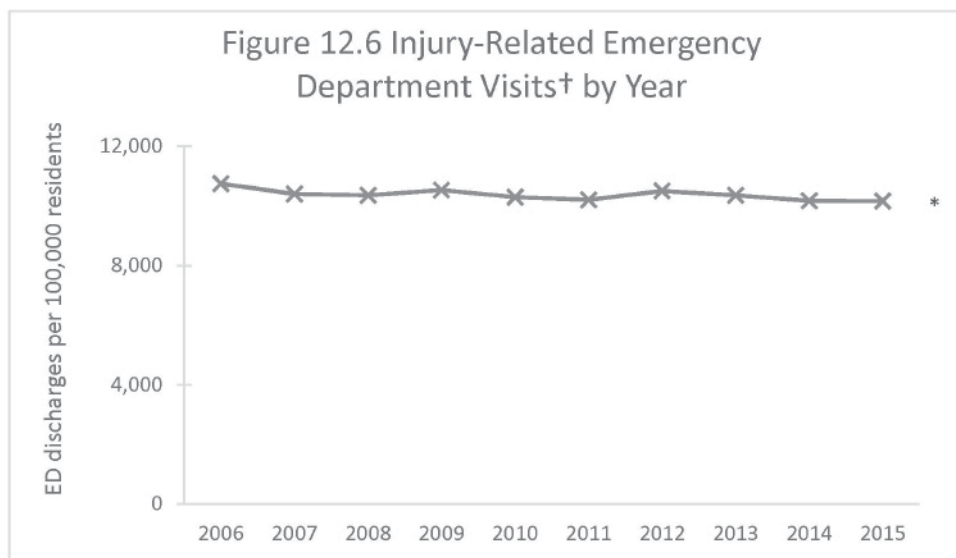
Healthy People 2020 Target: 17.9%

US 2015: 20.2% (18.8-21.7)

MA 2015: 15.6% (14.0-17.4)

Boston 2015: 15.1% (13.3-17)

In 2015, the rate for injury-related emergency department visits in Boston was 10,162.5 per 100,000 residents. Between 2006 and 2015, the rate decreased by 4%.



* Statistically significant change over time

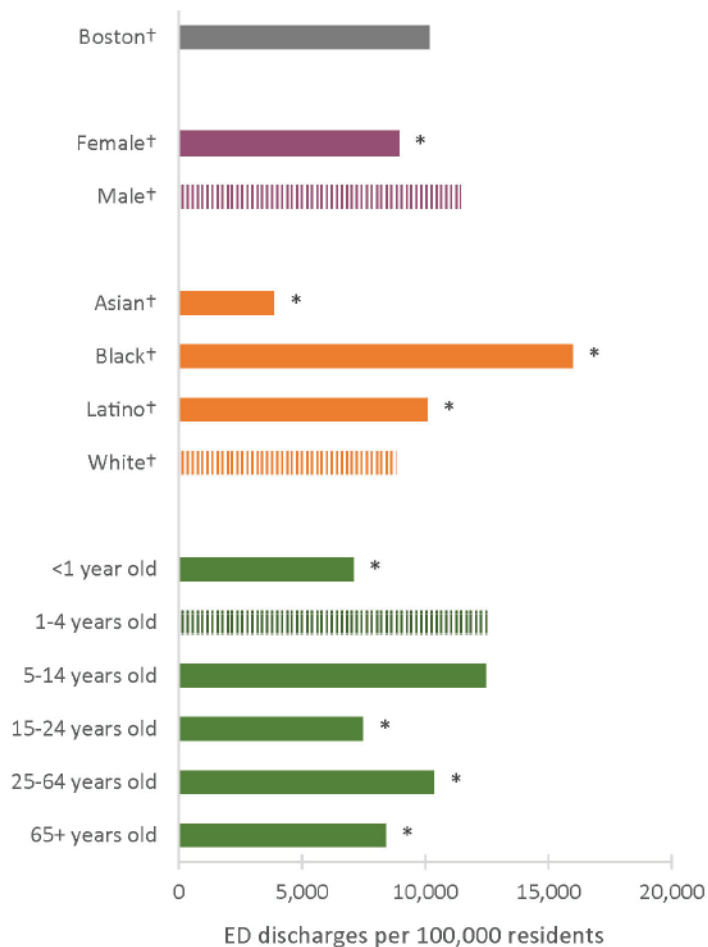
† Age-adjusted rates per 100,000 residents

NOTE: For injuries, emergency department visits include discharges from the emergency department but exclude care resulting in hospitalizations.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis



Figure 12.7 Injury-Related Emergency Department Visits by Selected Indicators, 2015



* Statistically significant difference when compared to reference group

† Age-adjusted rates per 100,000 residents

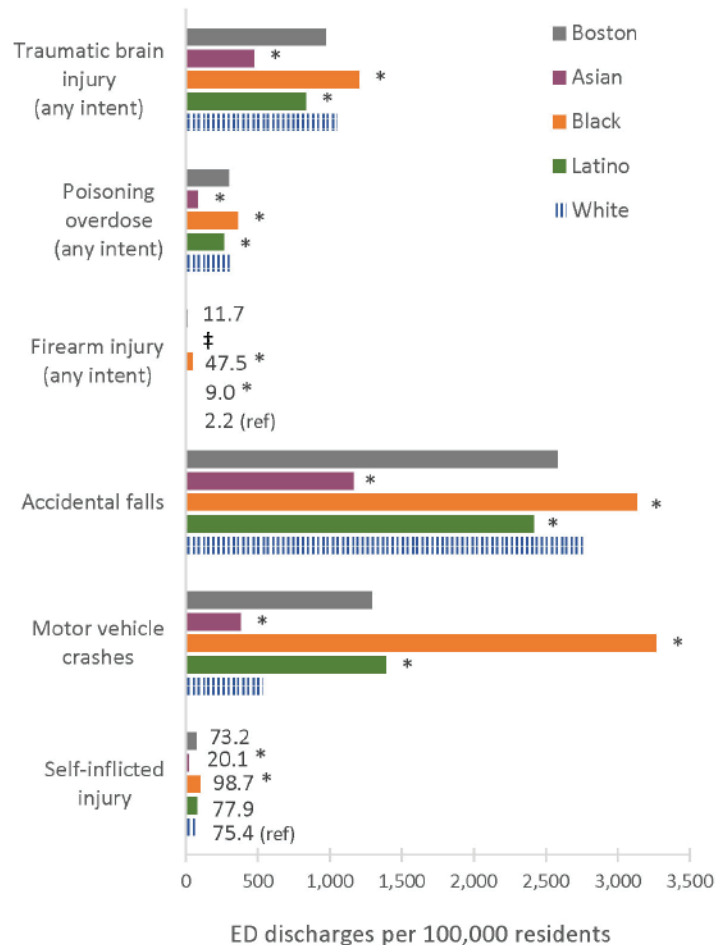
NOTE: Bars with patterns indicate the reference group within each selected indicator. For injuries, emergency department visits include discharges from the emergency department but exclude care resulting in hospitalizations.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

In 2015, the rate of injury-related emergency department visits in Boston was 10,162.5 per 100,000 residents. The rate of injury-related emergency department visits was 22% lower for females (8,921.7) compared with males (11,437.3). The rate for Asian residents (3,865.5) was 56% lower than the rate for White residents (8,806.5). The rate for Black residents (15,965.6) was 81% higher, and the rate for Latino residents (10,085.9) was 15% higher, when compared with White residents. The rates for residents under 1 year of age (7,083.6), ages 15-24 (7,477.6), 25-64 (10,366.5), and 65 and older (8,387.8) were lower than the rates for those ages 1-4 (12,614.8).

For 2013-2015, the rate of emergency department visits varied by race/ethnicity for the following selected types of injuries: traumatic brain injury, poisoning/overdose, firearm injuries, accidental falls, motor vehicle crashes, and self-injury. Compared with White residents, the rate was lower for Asian residents for all presented injuries except firearm injury. Black residents had a higher rate for all of the selected injury types compared with White residents. The largest difference was observed for firearm injuries, where the rate for Black residents (47.5 discharges per 100,000 residents) was over 21 times the rate for White residents (2.2). For Latino residents, the rates for firearm injuries and motor vehicle crashes were 4.1 and 2.6 times higher compared with White residents, respectively, while the rates for accidental falls, traumatic brain injury, and poisoning/overdose were lower.

Figure 12.8 Selected Injury Emergency Department Visits† by Race/Ethnicity, 2013-2015



* Statistically significant difference when comparisons are made between racial/ethnic groups

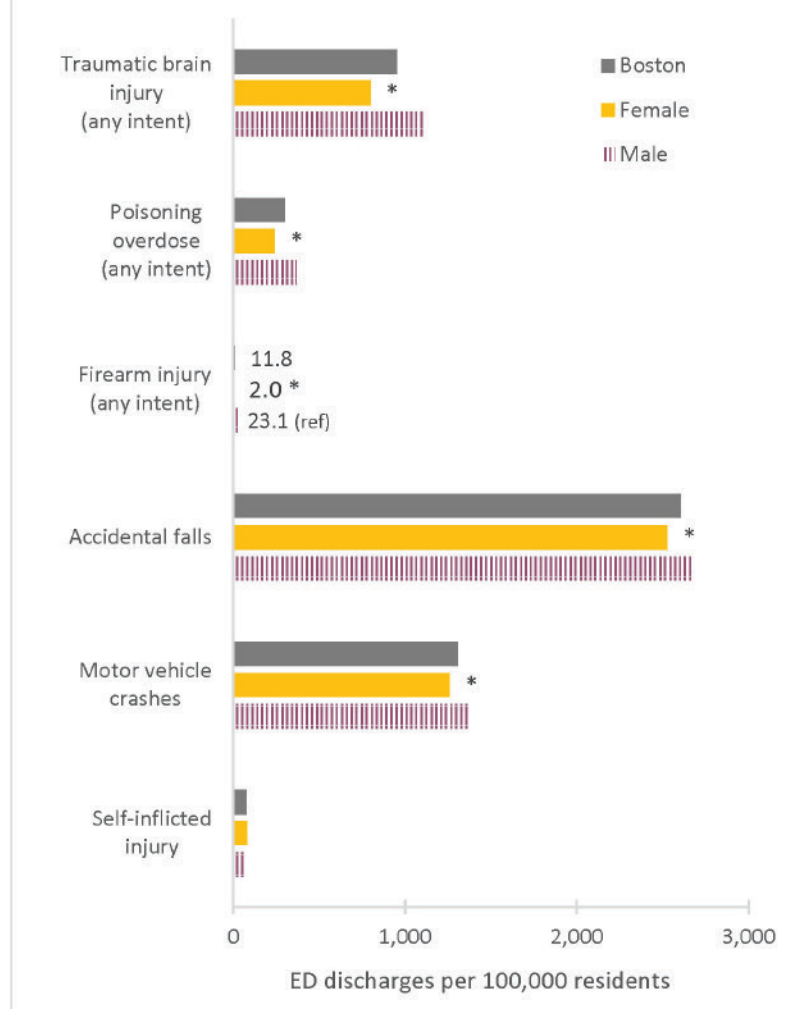
† 3-year average annual age-adjusted rates per 100,000 residents

‡ Rates not presented due to a small number of cases

NOTE: Bars with patterns or where "ref" is indicated represent the reference group within each selected indicator. For injuries, emergency department visits include discharges from the emergency department but exclude care resulting in hospitalizations.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

Figure 12.9 Selected Injury Emergency Department Visits† by Sex, 2014-2015



* Statistically significant difference when comparisons are made between females and males

† 2-year average annual age-adjusted rates per 100,000 residents

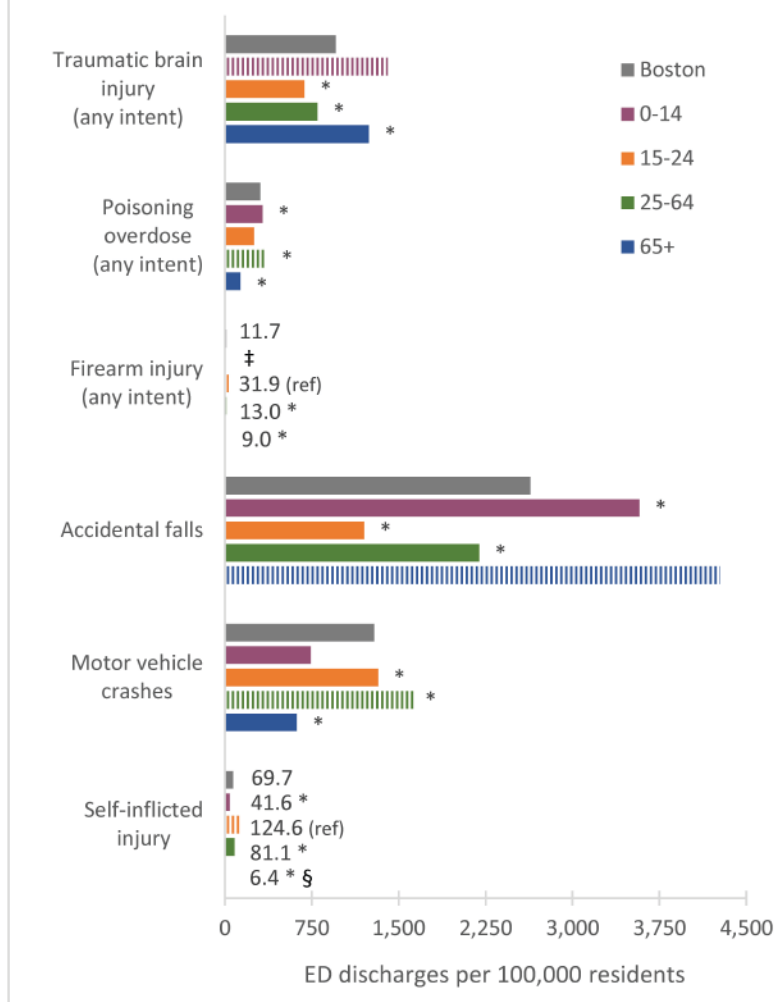
NOTE: Bars with patterns or where "ref" is indicated represent the reference group within each selected indicator. For injuries, emergency department visits include discharges from the emergency department but exclude care resulting in hospitalizations.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

For 2014-2015, compared with males, the emergency department visit rate was lower for females for all selected injuries except self-inflicted injuries. The largest difference was observed for firearm injuries, where the rate for males (23.1 discharges per 100,000 residents) was approximately 11.5 times the rate for females (2.0).

For 2011-2015, the rate of emergency department visits for the selected types of injuries varied by age. Compared with those ages 0-14, all other age groups had lower rates of traumatic brain injury. Compared with those ages 15-24, all other age groups presented had lower rates of firearm injuries and self-inflicted injuries. Compared with those ages 25-64, all other age groups had lower rates of poisoning/overdose and motor vehicle crash injuries. Lastly, compared with those ages 65 and over, all other groups had lower rates of injury due to accidental falls.

Figure 12.10 Selected Injury Emergency Department Visits¹ by Age, 2011-2015



* Statistically significant difference when comparisons are made between age groups

‡ Rates not presented due to a small number of cases

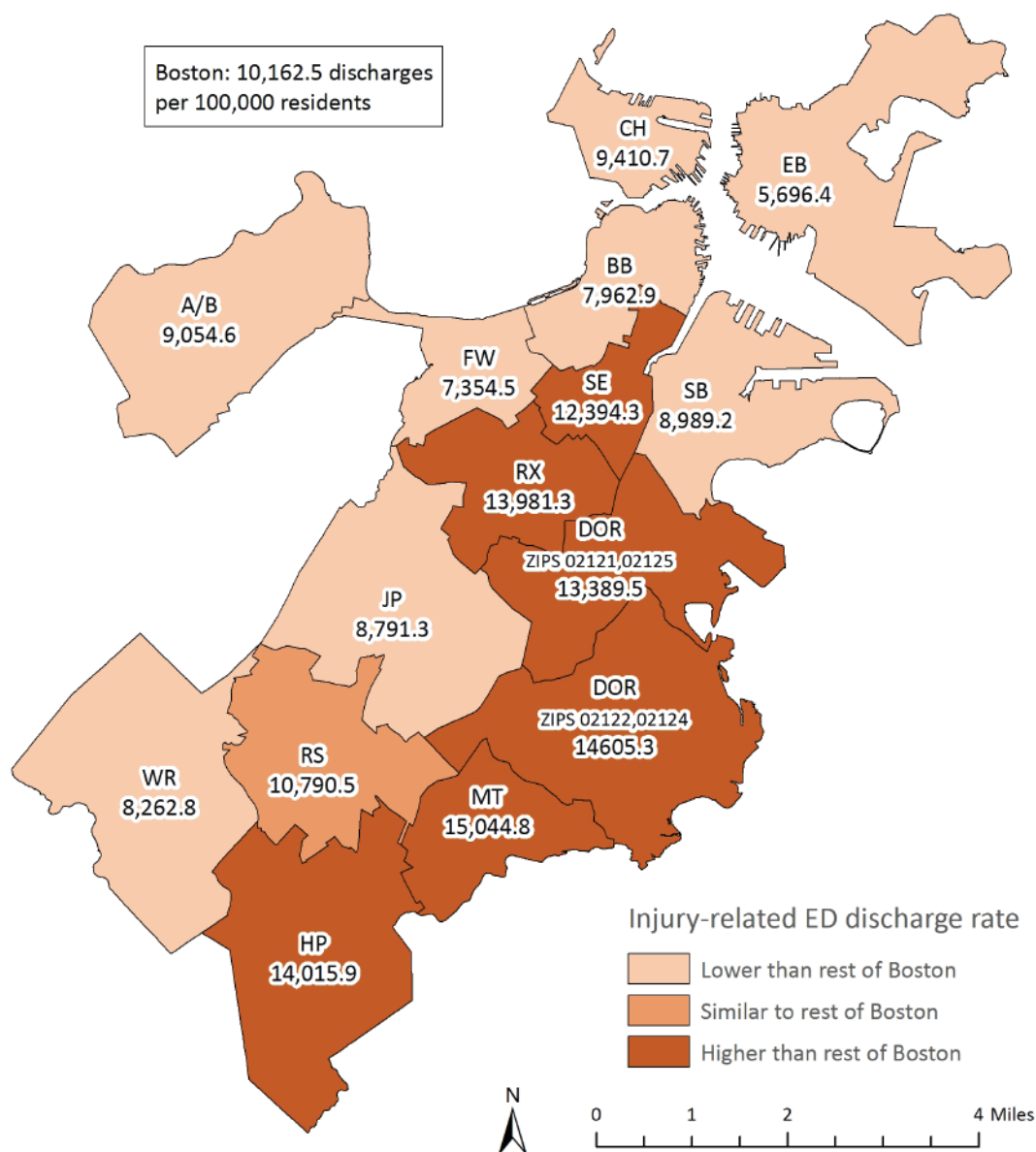
§ Rates based on 20 or fewer cases should be interpreted with caution.

¹ 5-year average annual rates per 100,000 residents

NOTE: Bars with patterns or where "ref" is indicated represent the reference group within each selected indicator. For injuries, emergency department visits include discharges from the emergency department but exclude care resulting in hospitalizations.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

Figure 12.11 Injury-Related Emergency Department (ED) Visits† by Neighborhood, 2015



† Age-adjusted rates per 100,000 residents

NOTE: "BB" includes the Back Bay, Beacon Hill, Downtown, the North End, and the West End.

"SE" includes the South End and Chinatown. For injuries, emergency department visits include discharges from the emergency department but exclude care resulting in hospitalizations.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

In 2015, the rate of injury-related emergency department (ED) visits in Boston was 10,162.5 per 100,000 residents. The rate of injury-related ED visits was higher for Dorchester (zip codes 02121, 02125), Dorchester (zip codes 02122, 02124), Hyde Park, Mattapan, Roxbury, and the South End compared with the rest of Boston. The rate was lower for Allston/Brighton, Back Bay, Charlestown, East Boston, Fenway, Jamaica Plain, South Boston, and West Roxbury compared with the rest of Boston.

In 2015, the injury-related hospitalization rate in Boston was 533.8 per 100,000 residents. Between 2006 and 2015, the rate decreased by 25%.

Figure 12.12 Injury-Related Hospitalizations† by Year



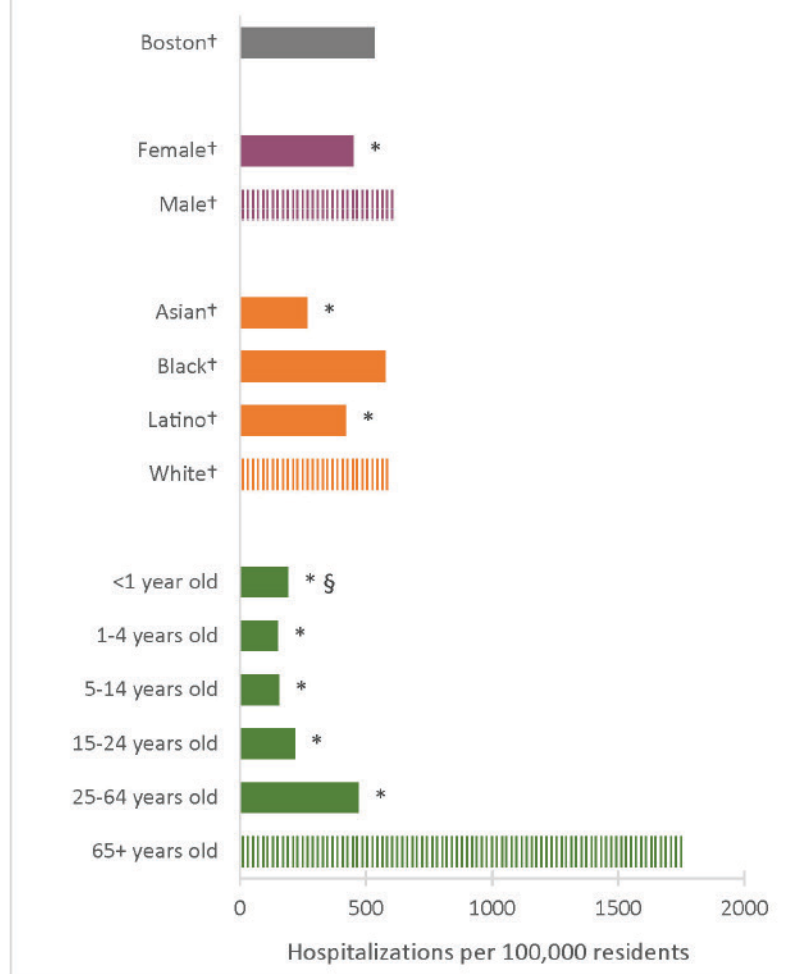
* Statistically significant change over time

† Age-adjusted rates per 100,000 residents

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis



Figure 12.13 Injury-Related Hospitalizations by Selected Indicators, 2015



* Statistically significant difference when compared to reference group

† Age-adjusted rates per 100,000 residents

§ Rates are based on 20 or fewer cases and should be interpreted with caution.

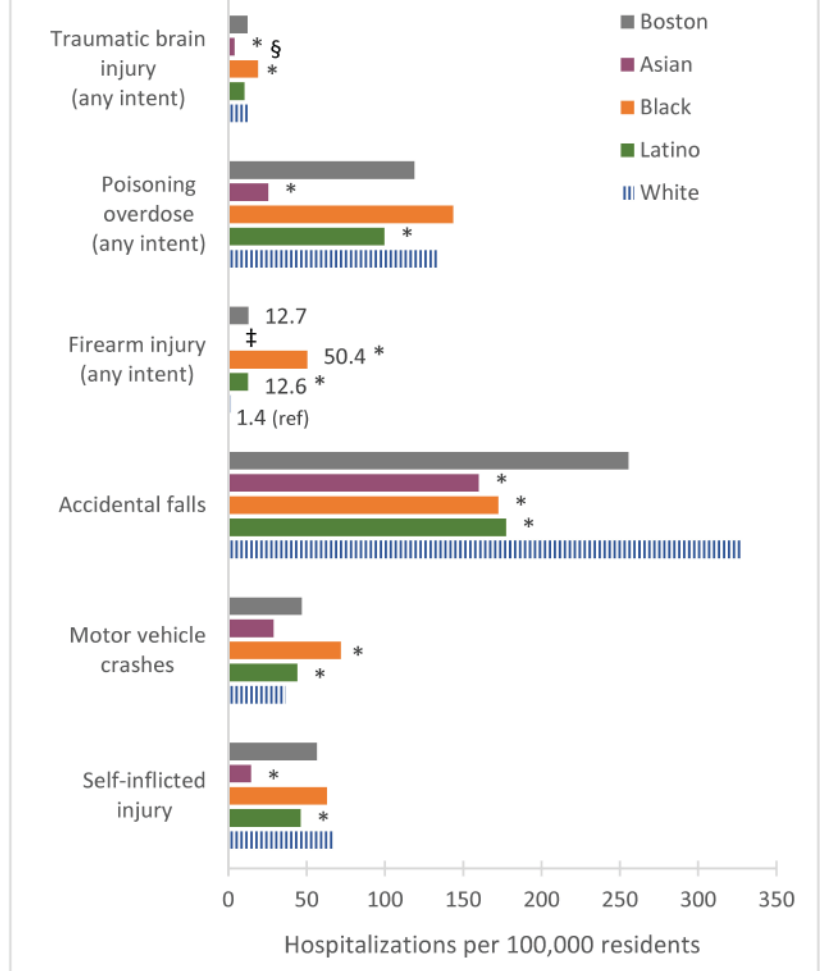
NOTE: Bars with patterns indicate the reference group within each selected indicator.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

In 2015, the injury-related hospitalization rate in Boston was 533.8 per 100,000 residents. The rate was 26% lower for females (449.4) compared with males (608.8). The rates for Asian residents (266.9) and Latino residents (420.6) were 55% and 29% lower, respectively, than the rate for White residents (592.3). The rates for all age groups were lower than the rate for those ages 65 and older (1,756.9).

For 2011-2015, the rate of hospitalizations varied by race/ethnicity for the following selected types of injuries: traumatic brain injury, poisoning/overdose, firearm injuries, accidental falls, motor vehicle crashes, and self-injury. Compared with White residents, the rate was lower among Asian residents for all presented injuries except motor vehicle crashes. Black residents had higher rates of traumatic brain injury, firearm injury, and motor vehicle crashes compared with White residents, but lower rates of accidental falls. The largest difference was observed for firearm injuries, where the rate for Black residents (50.4 hospitalizations per 100,000 residents) was over 36 times the rate for White residents (1.4). For Latino residents, the rates for firearm injury and motor vehicle crashes were 9.1 and 1.2 times higher, respectively, compared with White residents, while the rates for poisoning/overdose, accidental falls, and self-inflicted injury were lower.

Figure 12.14 Selected Injury Hospitalizations† by Race/Ethnicity, 2011-2015



* Statistically significant difference when comparisons are made between racial/ethnic groups

† 5-year average annual age-adjusted rates per 100,000 residents

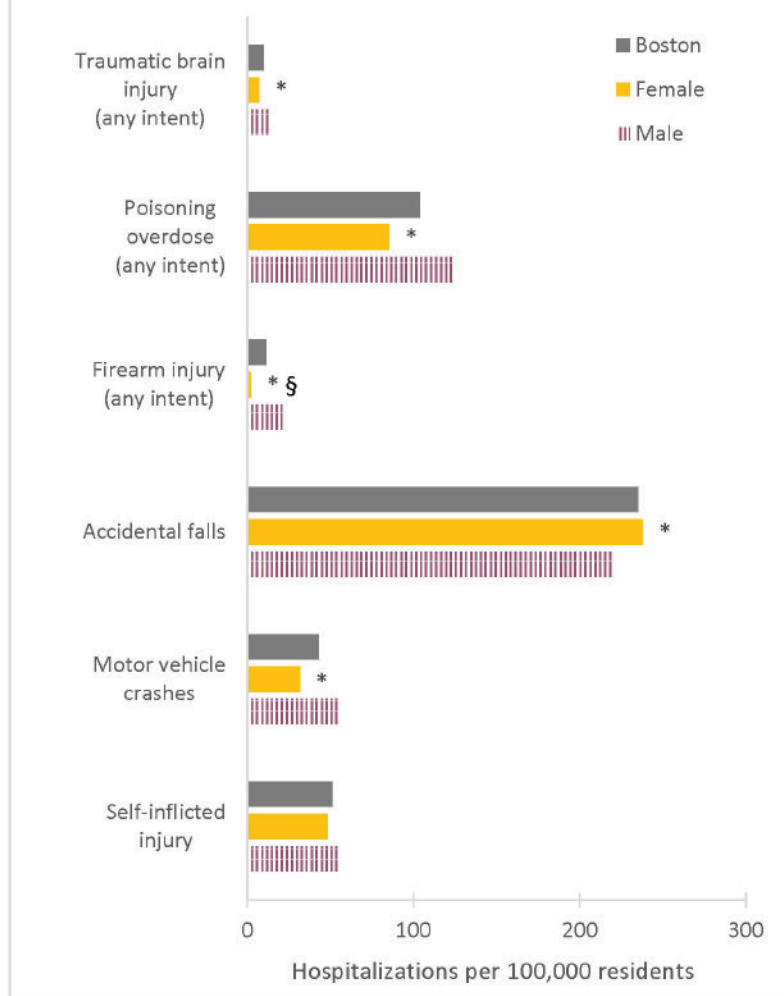
‡ Rates not presented due to a small number of cases

§ Rates based on 20 or fewer cases should be interpreted with caution.

NOTE: Bars with patterns or where "ref" is indicated represent the reference group within each selected indicator.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

Figure 12.15 Selected Injury Hospitalizations[†] by Sex, 2014-2015



* Statistically significant difference when comparisons are made between females and males

[†] 2-year average annual age-adjusted rates per 100,000 residents

§ Rates based on 20 or fewer cases should be interpreted with caution.

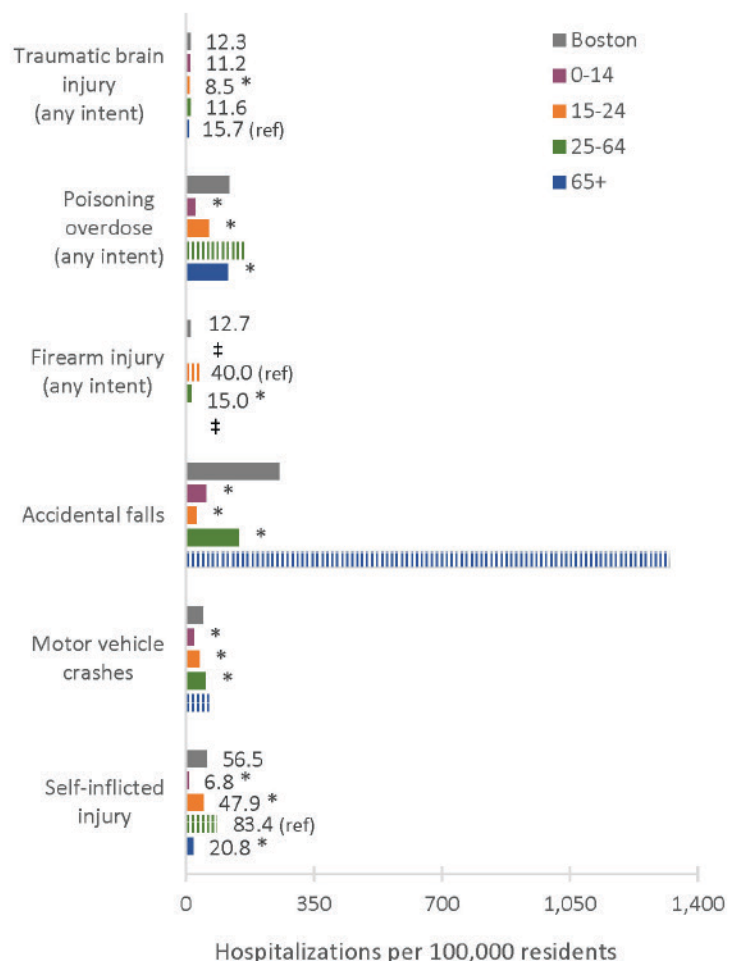
NOTE: Bars with patterns indicate the reference group within each selected indicator.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

For 2014-2015, compared with males, the hospitalization rate was lower among females for the following injuries: traumatic brain injury, poisoning/overdose, firearm injury, and motor vehicle crashes. The rate for accidental falls was higher for females (238.1 hospitalizations per 100,000 residents) compared with males (220.4).

For 2011-2015, the rate of hospitalizations for the selected types of injuries varied by age. Residents ages 25-64 had a lower rate of firearm injury hospitalization (15.0 hospitalizations per 100,000 residents) compared with those ages 15-24 (40.0). Compared with those ages 25-64, all other age groups had lower rates of poisoning/overdose and self-inflicted injury. Compared with those ages 65 and older (15.7), residents ages 15-24 had a lower rate of traumatic brain injury (8.5). All other age groups had lower rates of injury due to accidental falls and motor vehicle crashes compared with those ages 65 and older.

Figure 12.16 Selected Injury Hospitalizations¹ by Age, 2011-2015



* Statistically significant difference when comparisons are made between age groups

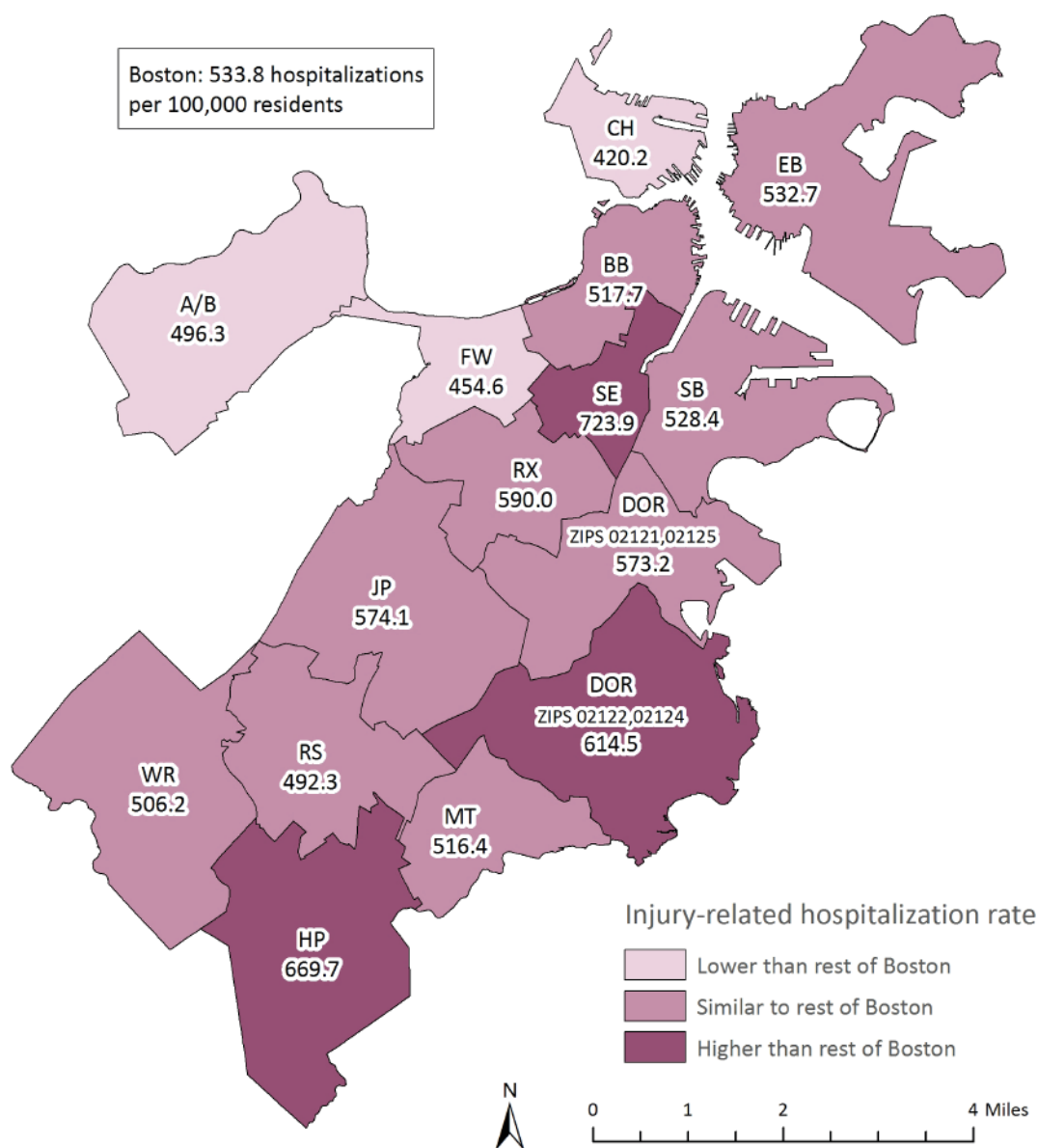
‡ Rates not presented due to a small number of cases

¹ 5-year average annual rates per 100,000 residents

NOTE: Bars with patterns or where "ref" is indicated represent the reference group within each selected indicator.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

Figure 12.17 Injury-Related Hospitalizations†
by Neighborhood, 2015



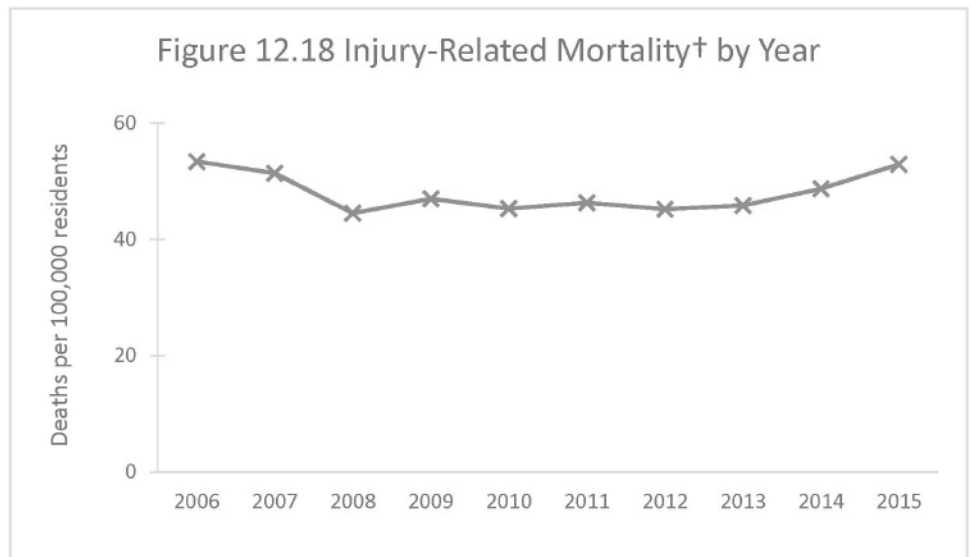
† Age-adjusted rates per 100,000 residents

NOTE: "BB" includes the Back Bay, Beacon Hill, Downtown, the North End, and the West End.
"SE" includes the South End and Chinatown.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

In 2015, the injury-related hospitalization rate in Boston was 533.8 per 100,000 residents. The injury-related hospitalization rate was higher for Dorchester (zip codes 02122, 02124), Hyde Park, and the South End compared with the rest of Boston. The rate was lower for Allston/Brighton, Charlestown, and Fenway compared with the rest of Boston.

In 2015, the injury-related mortality rate was 52.9 deaths per 100,000 residents. There was no significant change over time from 2006 to 2015.



† Age-adjusted rates per 100,000 residents

DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health (data as of December 2016). Data may be updated as more information becomes available.

Fatal Injuries

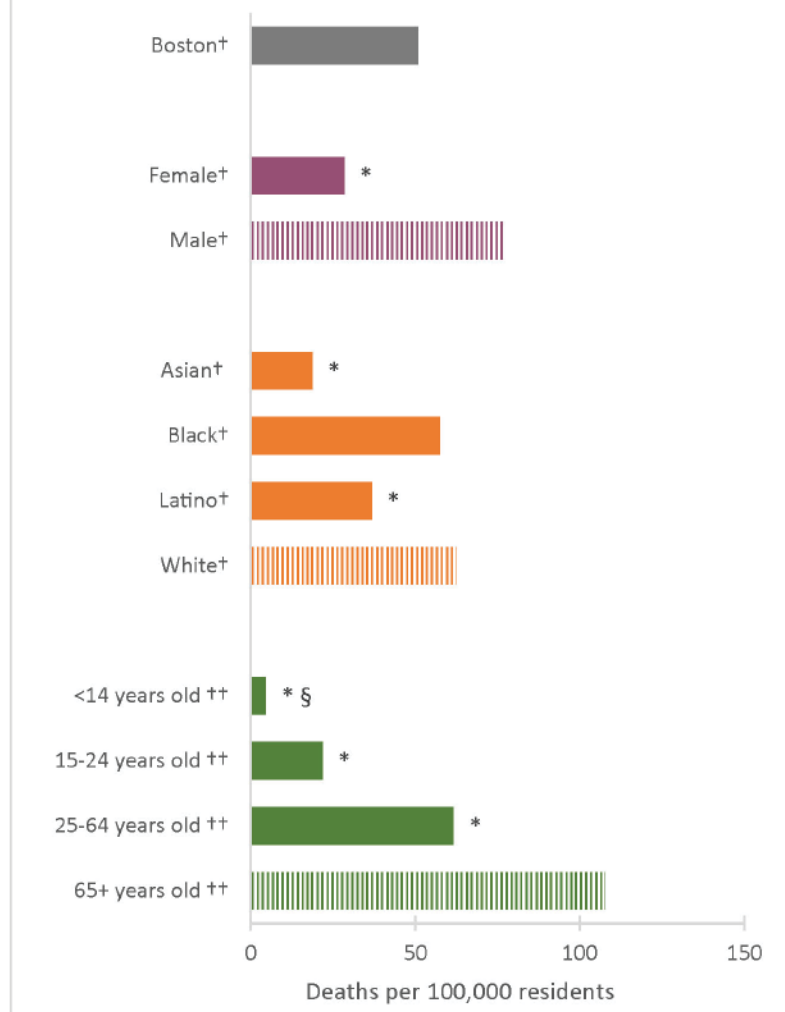
Healthy People 2020 Target: 53.7 deaths per 100,000 population

US 2015: 63.9

MA 2014: 55.9

Boston 2015: 52.9

Figure 12.19 Injury-Related Mortality by Selected Indicators, 2014-2015



* Statistically significant difference when compared to reference group

† 2-year average annual age-adjusted rates per 100,000 residents

†† 2-year average annual rates per 100,000 residents

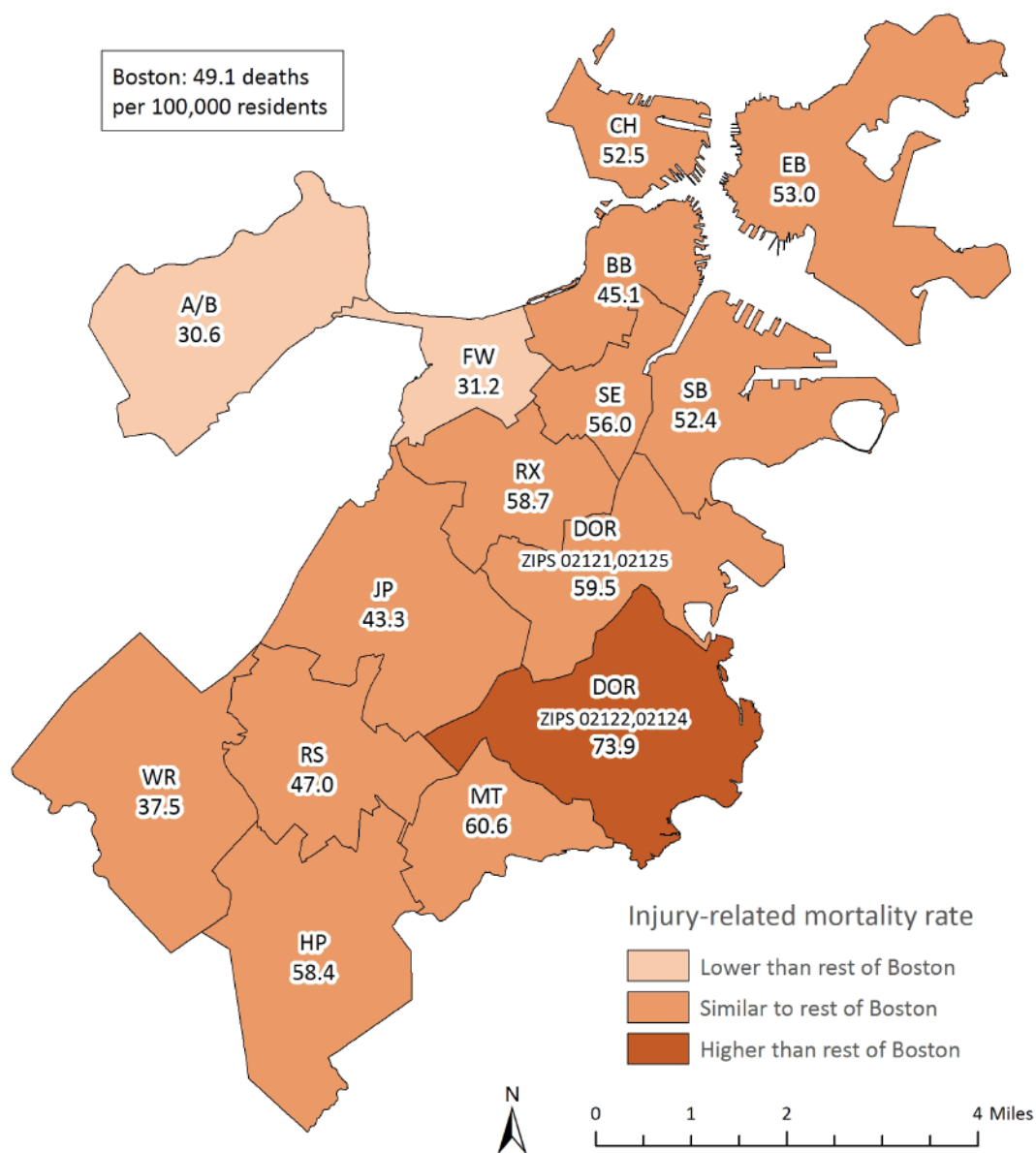
§ Rates are based on 20 or fewer cases and should be interpreted with caution.

NOTE: Bars with patterns indicate the reference group within each selected indicator.

DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health (data as of December 2016). Data may be updated as more information becomes available.

For 2014-2015, the injury-related mortality rate in Boston was 50.8 deaths per 100,000 residents. The mortality rate for females (28.3) was 63% lower than the rate for males (76.6). The rates were 70% and 41% lower for Asian (18.7) and Latino residents (36.7), respectively, when compared with White residents (62.3). The rates for all age groups were lower than the rate for those ages 65 and older (107.7).

Figure 12.20 Injury-Related Mortality†
by Neighborhood, 2013-2015



† 3-year average annual age-adjusted rates per 100,000 residents

NOTE: "BB" includes the Back Bay, Beacon Hill, Downtown, the North End, and the West End.
"SE" includes the South End and Chinatown.

DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health (data as of December 2016). Data may be updated as more information becomes available.

For 2013-2015, the injury-related mortality rate in Boston was 49.1 deaths per 100,000 residents. The rate was higher for Dorchester (zip codes 02122, 02124) and lower for Allston/Brighton and Fenway compared with the rest of Boston.

Figure 12.21 Leading Causes of Injury Mortality† By Year

Rank	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
1	Unintentional poisoning ¹ 122 (22.0)	Unintentional poisoning ¹ 99 (17.4)	Unintentional poisoning ¹ 71 (12.7)	Unintentional poisoning ¹ 93 (16.5)	Unintentional poisoning ¹ 64 (10.9)	Unintentional poisoning ¹ 81 (13.8)	Unintentional poisoning ¹ 72 (12.5)	Unintentional poisoning ¹ 99 (16.9)	Unintentional poisoning ¹ 116 (18.6)	Unintentional poisoning ¹ 147 (24.4)
2	Homicide by firearm 45 (5.3)	Homicide by firearm 47 (6.1)	Homicide by firearm 53 (6.1)	Suicide by means other than firearms 37 (6.2)	Homicide by firearm 58 (7.6)	Suicide by means other than firearms 46 (7.4)	Falls 56 (10.3)	Falls 43 (7.9)	Falls 48 (9.1)	Falls 51 (9.0)
3	Falls 32 (6.1)	Falls 34 (6.4)	Falls 35 (6.7)	Falls 32 (6.2)	Suicide by means other than firearms 42 (6.8)	Homicide by firearm 44 (5.2)	Homicide by firearm 34 (3.7)	Suicide by means other than firearms 32 (4.8)	Homicide by firearm 36 (4.7)	Suicide by means other than firearms 36 (5.2)
4	Motor vehicle crashes 29 (4.7)	Suicide by means other than firearms 26 (4.2)	Suicide by means other than firearms 26 (4.3)	Homicide by firearm 30 (3.6)	Falls 35 (6.5)	Falls 37 (7.0)	Motor vehicle crashes 31 (5.0)	Homicide by firearm 31 (3.3)	Suicide by means other than firearms 29 (4.5)	Homicide by firearm 28 (3.2)
5	Suicide by means other than firearms 24 (3.9)	Motor vehicle crashes 23 (3.5)	Motor vehicle crashes 24 (3.9)	Other non-transportation accidents 29 (5.2)	Other non-transportation accidents 19 (3.9) §	Other non-transportation accidents 29 (5.3)	Suicide by means other than firearms 30 (4.6)	Motor vehicle crashes 28 (4.7)	Motor vehicle crashes 24 (4.3)	Motor vehicle crashes 22 (3.8)
Cause of death, count (rate per 100,000 residents)										

From 2006-2015, the most common cause of injury mortality was unintentional poisoning, which includes drug overdose deaths. From 2012-2015, the second most common cause of injury-related mortality was falls. Prior to 2012, the second most common cause was homicide by firearm or suicide by means other than firearms.

† Age-adjusted rates per 100,000 residents

§ Rates are based on 20 or fewer cases and should be interpreted with caution

¹ Includes drug overdoses. See Chapter 14; Substance Use Disorders for more information.

NOTE: Rank is based on number of deaths. Both counts and rates are presented.

DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health (data as of December 2016). Data may be updated as more information becomes available.

During 2011-2015, the leading cause of injury mortality varied by race/ethnicity. The leading cause was falls for Asian residents, homicide by firearms for Black residents, and unintentional poisonings (including drug overdose) for Latino and White residents. Black and Latino residents were the only two racial/ethnic groups with homicide in the top five causes of injury mortality. For Latino residents, both homicide by firearm and homicide by other means ranked among the top five.

Figure 12.22 Leading Causes of Injury Mortality† by Race/Ethnicity, 2011-2015

Rank	Asian	Black	Latino	White
1	Falls 17 (7.1) §	Homicide by firearm 115 (15.0)	Unintentional poisoning [†] 75 (13.9)	Unintentional poisoning [†] 333 (24.4)
2	Suicide by means other than firearms 15 (4.6) §	Unintentional poisoning [†] 95 (13.5)	Homicide by firearm 43 (5.7)	Falls 165 (11.0)
3	Motor vehicle crashes 11 (4.4) §	Motor vehicle crashes 45 (6.4)	Motor vehicle crashes 22 (3.8)	Suicide by means other than firearms 106 (7.4)
4	Other non-transportation accidents 10 (3.9) §	Falls 40 (6.1)	Homicide by means other than firearms 16 (2.5) §	Other non-transportation accidents 53 (3.5)
5	‡	Suicide by means other than firearms 31 (4.1)	Suicide by means other than firearms 14 (2.3) §	Motor vehicle crashes 51 (3.8)
Cause of death, count (rate per 100,000 residents)				

† 5-year average annual age-adjusted rates per 100,000 residents

‡ Rates not presented due to a small number of cases

§ Rates based on 20 or fewer cases should be interpreted with caution.

[†] Includes drug overdoses. See Chapter 14: Substance Use Disorders for more information.

NOTE: Rank is based on number of deaths. Both counts and rates are presented.

DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health (data as of December 2016).

Data may be updated as more information becomes available.

During 2014-2015, the leading cause of injury death for both male and female residents was accidental poisoning, which includes drug overdose. The second leading cause was homicide by firearm for men and falls for women.

Figure 12.23 Leading Causes of Injury Mortality† by Sex, 2014-2015

Rank	Male	Female
1	Accidental poisoning [†] 187 (31.2)	Accidental poisoning [†] 76 (12.3)
2	Homicide by firearm 62 (7.9)	Falls 41 (6.0)
3	Falls 58 (13.5)	Motor vehicle crashes 19 (3.3) §
4	Suicide by means other than firearms 50 (7.9)	Suicide by means other than firearms 15 (2.1) §
5	Motor vehicle crashes 27 (4.9)	Other non-transportation accidents 14 (2.1) §
Cause of death, count (rate per 100,000 residents)		

† 2-year average annual age-adjusted rates per 100,000 residents

§ Rates based on 20 or fewer cases should be interpreted with caution.

[†] Includes drug overdoses. See Chapter 14: Substance Use Disorders for more information.

NOTE: Rank is based on number of deaths. Both counts and rates are presented.

DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health (data as of December 2016). Data may be updated as more information becomes available.

Figure 12.24 Leading Causes of Injury Mortality¹
by Age, 2011-2015

	15-24	25-64	65+
1	Homicide by firearm 91 (12.5)	Accidental poisoning ² 477 (28.3)	Falls 181 (57.6)
2	Suicide by means other than firearms 26 (3.6)	Suicide by means other than firearms 132 (7.8)	Motor vehicle crashes 30 (9.6)
3	Accidental poisoning ² 20 (2.8) §	Homicide by firearm 79 (4.7)	Accidental poisoning ² 16 (5.1) §
4	Motor vehicle crashes 20 (2.8) §	Motor vehicle crashes 75 (4.5)	Suicide by means other than firearms 13 (4.1)
5	Homicide by means other than firearms 17 (2.3) §	Falls 52 (3.1)	Homicide by means other than firearms 10 (3.2) §
Cause of death, count (rate per 100,000 residents)			

§ Rates based on 20 or fewer cases should be interpreted with caution.

¹ 5-year average annual rates per 100,000 residents

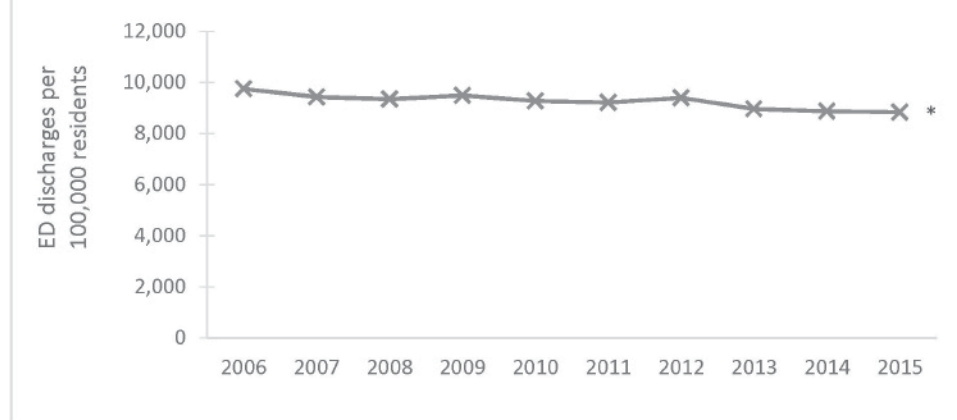
² Includes drug overdoses. See Chapter 14: Substance Use Disorders for more information.

NOTE: Rank is based on number of deaths. Both counts and rates are presented. Rates not presented due to a small number of cases for residents ages 0-14.

DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health (data as of December 2016). Data may be updated as more information becomes available.

During 2011-2015, the leading cause of injury mortality varied by age group. The leading cause was homicide by firearm for those ages 15-24, accidental poisoning (including drug overdose) for those ages 25-64, and falls for those ages 65 and older. Suicide by means other than firearms was the second leading cause for residents under age 65. Motor vehicle crashes was the second leading cause of injury mortality for residents ages 65 and older.

Figure 12.25 Unintentional Injury-Related
Emergency Department Visits[†] by Year



* Statistically significant change over time

[†] Age-adjusted rates per 100,000 residents

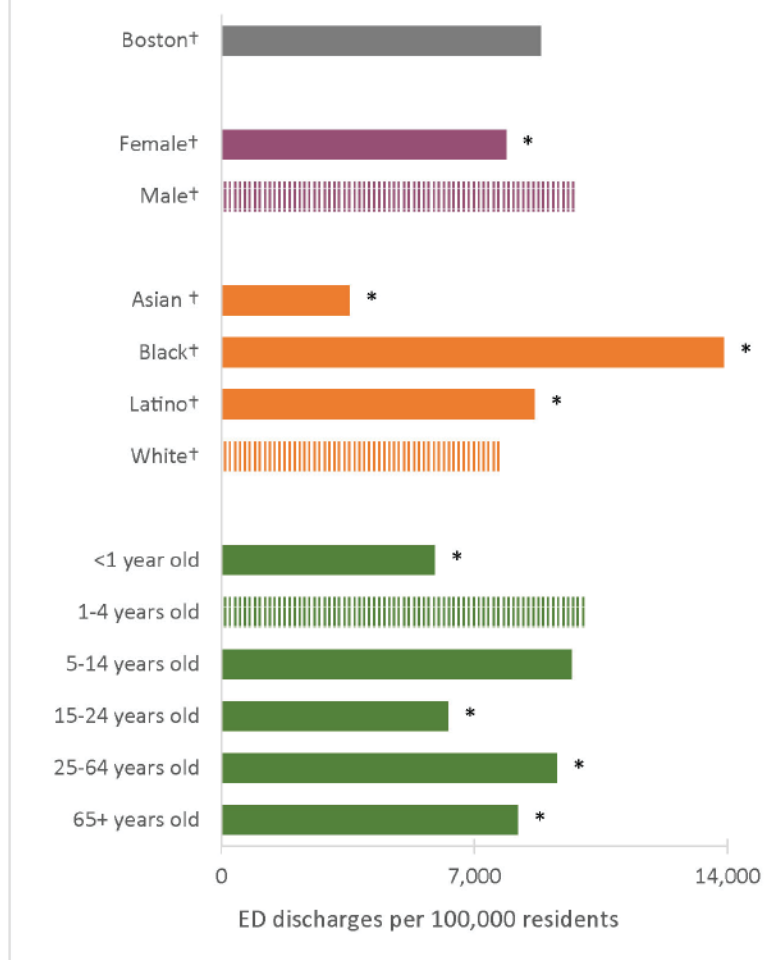
NOTE: For injuries, emergency department visits include discharges from the emergency department but exclude care resulting in hospitalizations.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

In 2015, the rate of unintentional injury-related emergency department visits was 8,835.2 per 100,000 residents. Between 2006 and 2015, the rate decreased by 8%.

In 2015, the rate of unintentional injury-related emergency department visits was 8,835.2 per 100,000 residents. The rate was 20% lower for females (7,879.7) compared with males (9,814.3). The rate for Asian residents (3,545.7) was 54% lower than the rate for White residents (7,715.3). The rates for Black residents (13,892.7) and Latino residents (8,664.0) were 80% and 12% higher, respectively, compared with White residents. The rates for residents under 1 year of age (5,905.3), ages 15-24 (6,275.6), 25-64 (9,277.3), and 65 and older (8,203.1) were lower than the rates for those ages 1-4 (10,101.4).

Figure 12.26 Unintentional Injury-Related Emergency Department Visits by Selected Indicators, 2015



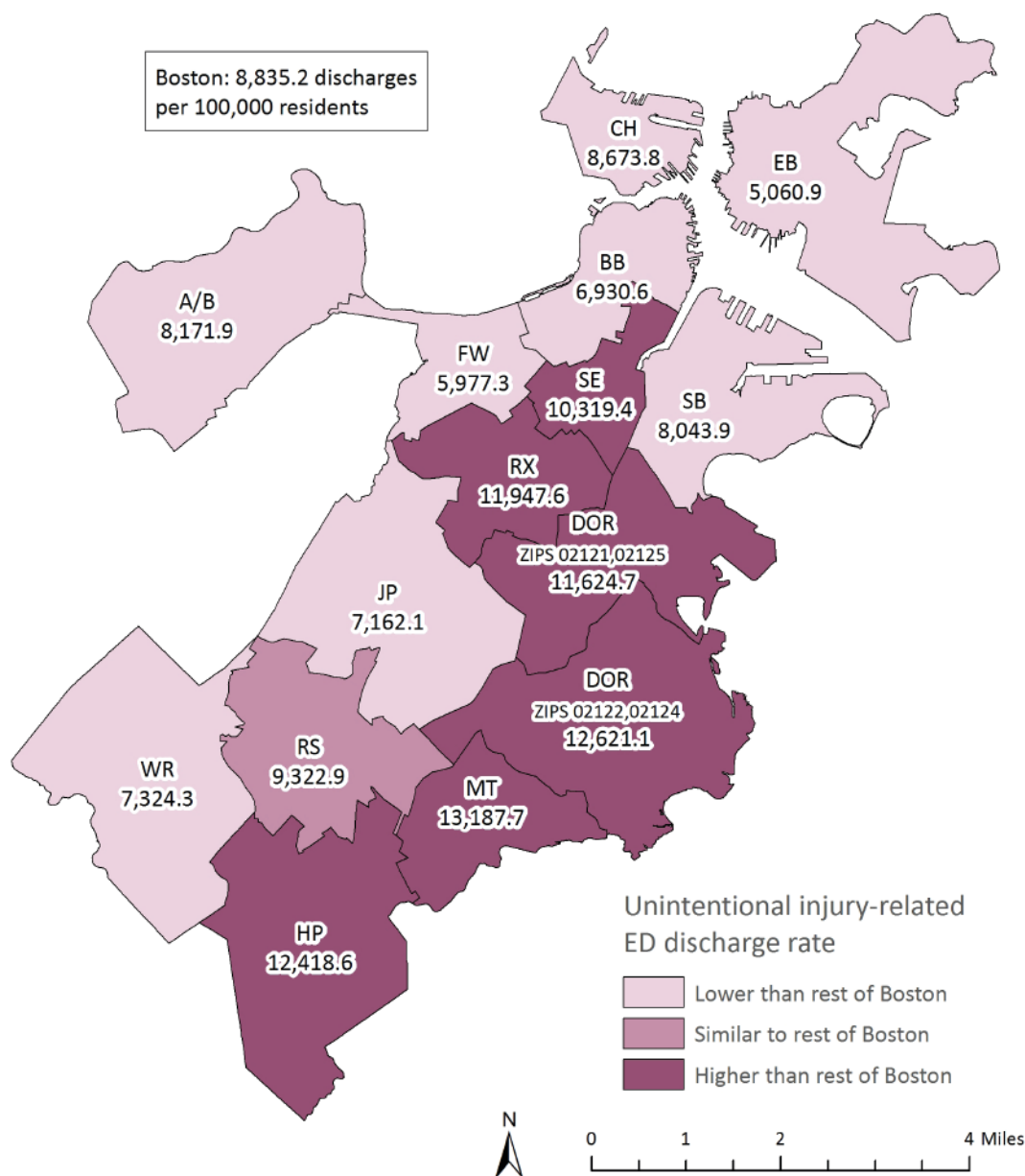
* Statistically significant difference when compared to reference group

† Age-adjusted rates per 100,000 residents

NOTE: Bars with patterns indicate the reference group within each selected indicator. For injuries, emergency department visits include discharges from the emergency department but exclude care resulting in hospitalizations.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

Figure 12.27 Unintentional Injury-Related Emergency Department (ED) Visits† by Neighborhood, 2015



† Age-adjusted rates per 100,000 residents

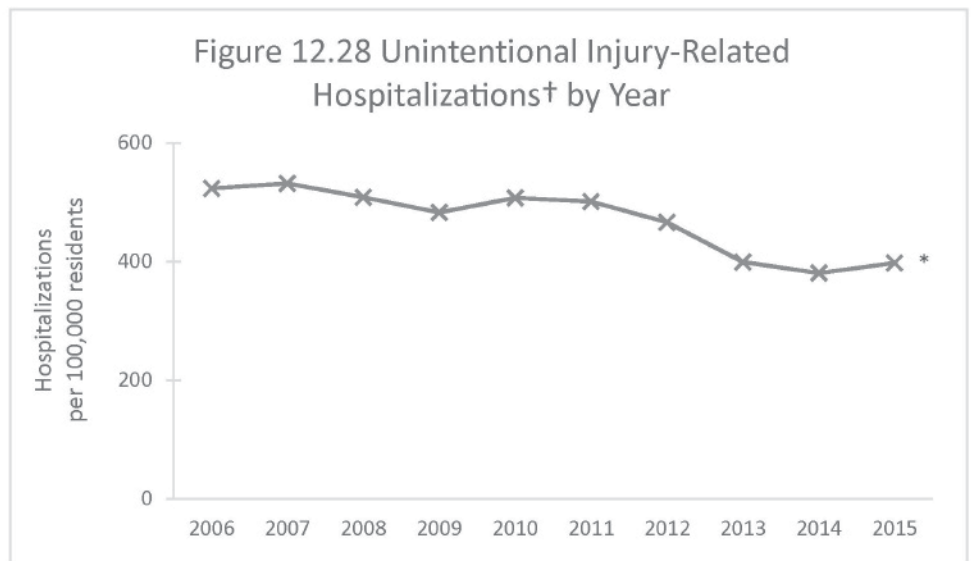
NOTE: "BB" includes the Back Bay, Beacon Hill, Downtown, the North End, and the West End.

"SE" includes the South End and Chinatown. For injuries, emergency department visits include discharges from the emergency department but exclude care resulting in hospitalizations.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

In 2015, the rate of unintentional injury-related emergency department visits in Boston was 8,835.2 per 100,000 residents. The rate of unintentional injury-related emergency department visits was higher for Dorchester (zip codes 02121, 02125), Dorchester (zip codes 02122, 02124), Hyde Park, Mattapan, Roxbury, and the South End compared with the rest of Boston. The rate was lower for Allston/Brighton, Back Bay, Charlestown, East Boston, Fenway, Jamaica Plain, South Boston, and West Roxbury compared with the rest of Boston.

In 2015, the unintentional injury-related hospitalization rate was 397.9 per 100,000 residents. Between 2006 and 2015, the rate decreased by 28%.



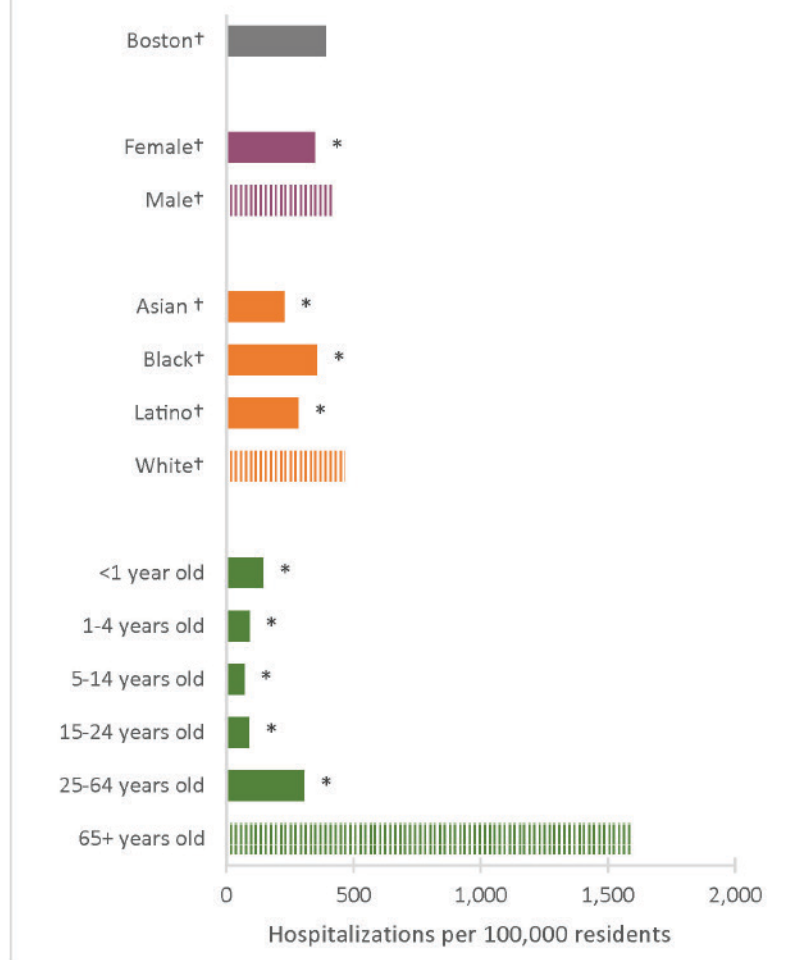
* Statistically significant change over time

† Age-adjusted rates per 100,000 residents

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis



Figure 12.29 Unintentional Injury-Related Hospitalizations by Selected Indicators, 2014-2015



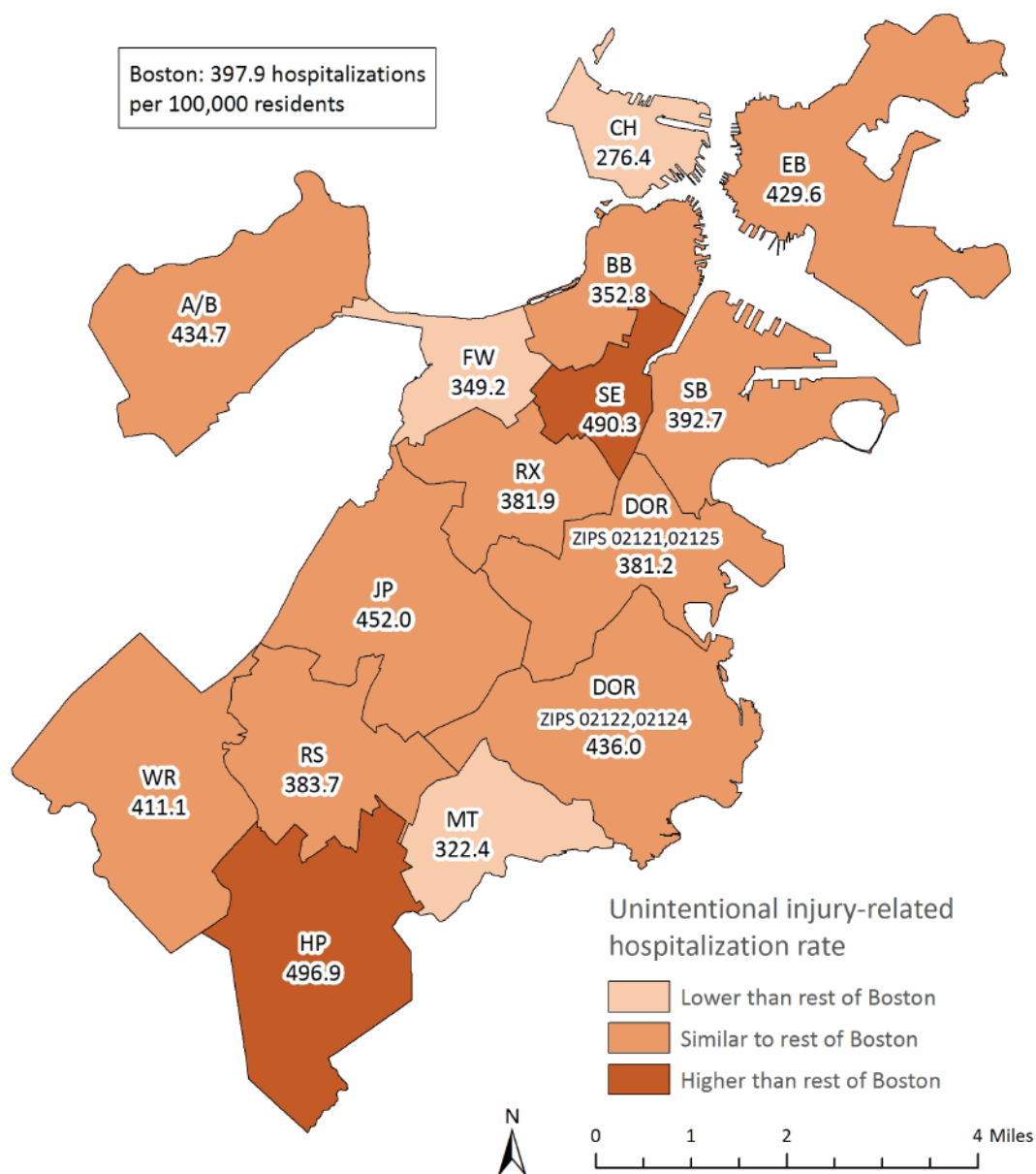
* Statistically significant difference when compared to reference group

† 2-year average annual age-adjusted rates per 100,000 residents

NOTE: Bars with patterns indicate the reference group within each selected indicator.
DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

For 2014-2015, the rate of unintentional injury-related hospitalizations was 389.3 per 100,000 residents. The rate was 17% lower for females (348.4) compared with males (420.8). Compared with White residents (463.3), the rates were 51%, 24%, and 39% lower, respectively, for Asian (227.0), Black (354.5), and Latino residents (282.8). The rates for all age groups were lower than the rate for those ages 65 and older (1,593.8).

Figure 12.30 Unintentional Injury-Related Hospitalizations† by Neighborhood, 2015



† Age-adjusted rates per 100,000 residents

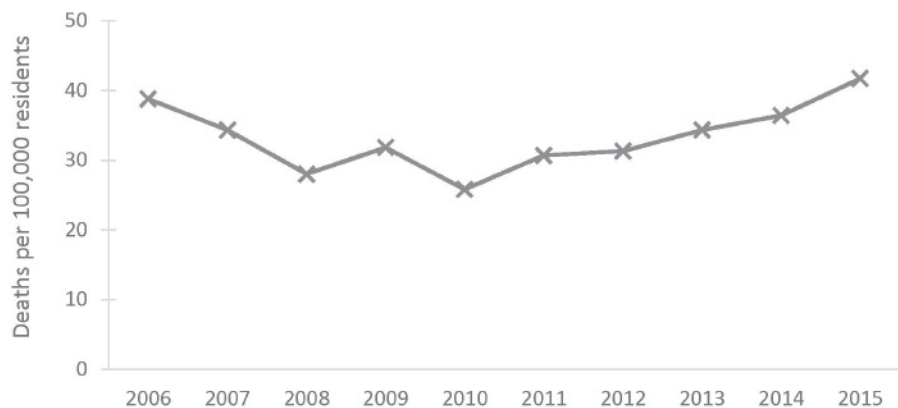
NOTE: "BB" includes the Back Bay, Beacon Hill, Downtown, the North End, and the West End.

"SE" includes the South End and Chinatown.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

In 2015, the rate for unintentional injury-related hospitalizations in Boston was 397.9 per 100,000 residents. The rate for unintentional injury-related hospitalizations was higher for Hyde Park and the South End, and lower for Charlestown, Fenway, and Mattapan compared with the rest of Boston.

Figure 12.31 Unintentional Injury-Related Mortality† by Year



In 2015, the unintentional injury-related mortality rate was 41.7 deaths per 100,000 residents. There was no significant change over time from 2006 to 2015.

† Age-adjusted rates per 100,000 residents

DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health (data as of December 2016). Data may be updated as more information becomes available.

Unintentional Fatal Injury

Healthy People 2020 Target: 36.4 deaths per 100,000 population

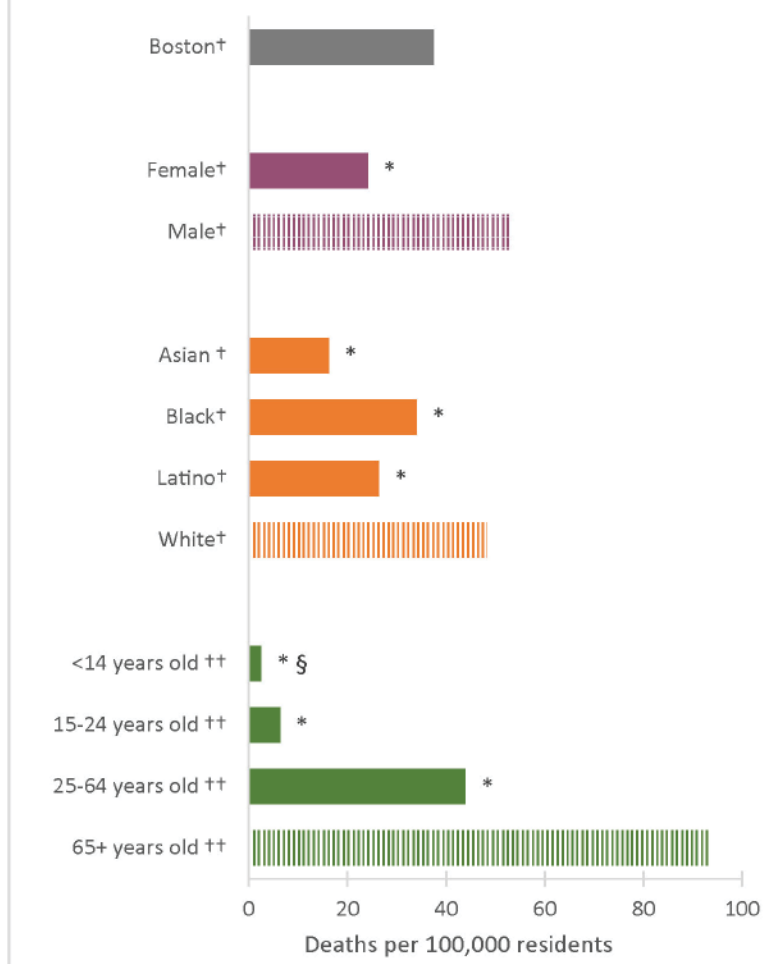
US 2010: 43.2

MA 2013: 44.0

Boston 2015: 41.7

For 2013-2015, the unintentional injury-related mortality rate in Boston was 37.5 deaths per 100,000 residents. The rate for females (24.1) was 54% lower than for males (52.8). The rates were 66%, 29%, and 45% lower, respectively, for Asian (16.2), Black (34.0), and Latino residents (26.3) compared with White residents (48.2). The rates for all age groups were lower than the rate for those ages 65 and older (93.1).

Figure 12.32 Unintentional Injury-Related Mortality by Selected Indicators, 2013-2015



* Statistically significant difference when compared to reference group

† 3-year average annual age-adjusted rates per 100,000 residents

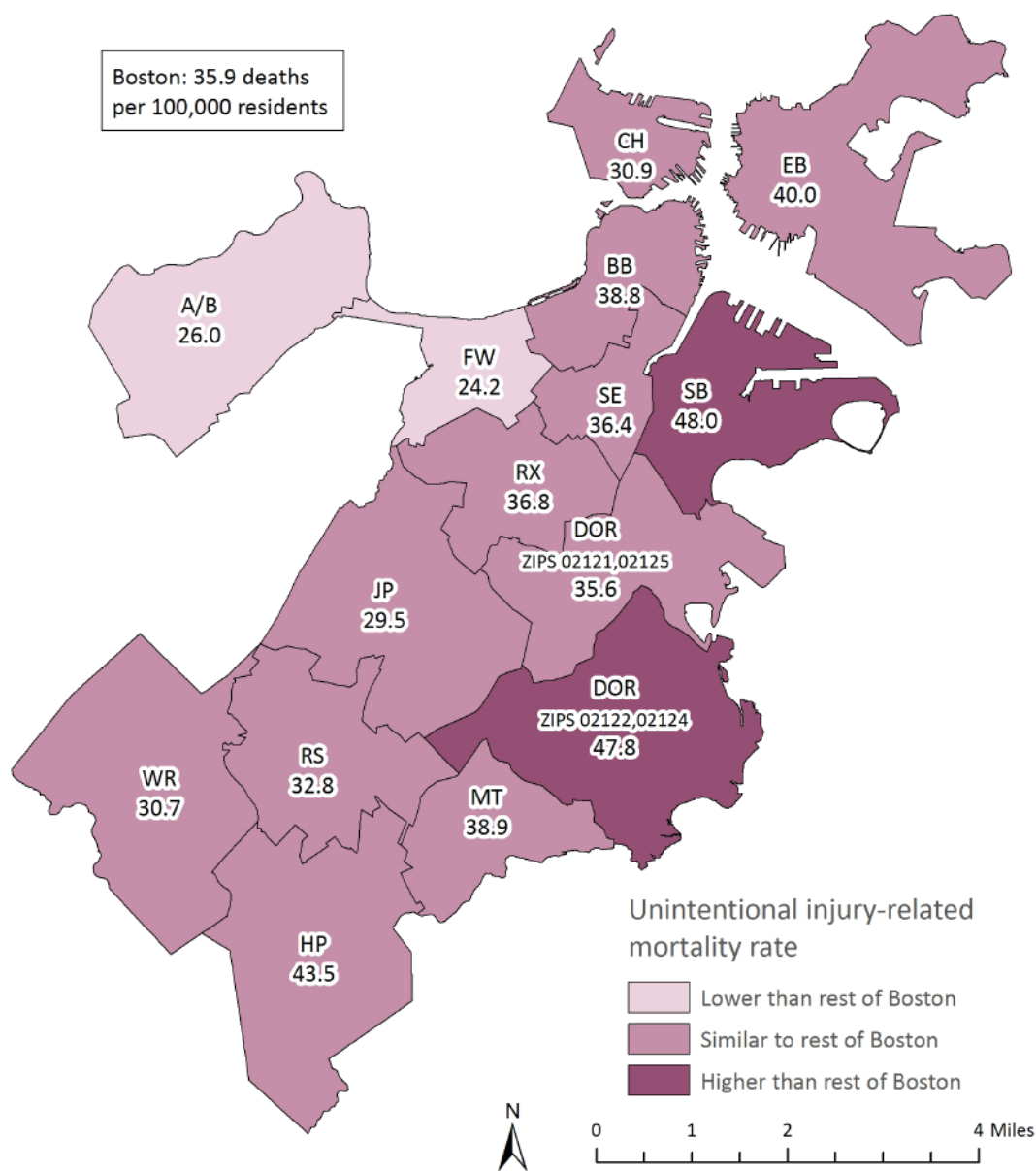
†† 3-year average annual rates per 100,000 residents

§ Rates are based on 20 or fewer cases and should be interpreted with caution.

NOTE: Bars with patterns indicate the reference group within each selected indicator.

DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health (data as of December 2016). Data may be updated as more information becomes available.

Figure 12.33 Unintentional Injury-Related Mortality†
by Neighborhood, 2012-2015



† 4-year average annual age-adjusted rates per 100,000 residents

NOTE: "BB" includes the Back Bay, Beacon Hill, Downtown, the North End, and the West End.
"SE" includes the South End and Chinatown.

DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health (data as of December 2016). Data may be updated as more information becomes available.

In 2012-2015, the unintentional injury-related mortality rate in Boston was 35.9 deaths per 100,000 residents. The rate was higher for Dorchester (zip codes 02122, 02124) and South Boston, and lower for Allston/Brighton and Fenway compared with the rest of Boston.

In 2015, the rate of emergency department visits for fall-related injuries in Boston was 4,600.1 per 100,000 residents ages 65 and older. Between 2006 and 2015, the rate increased by 19%.

Figure 12.34 Fall-Related Emergency Department Visits Among Residents Ages 65+ by Year



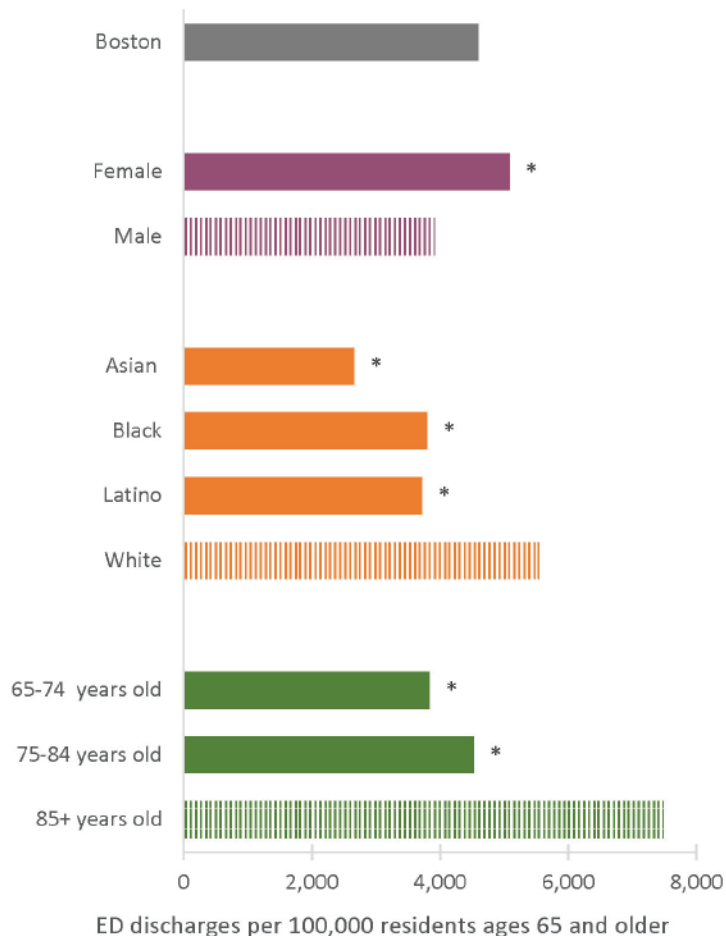
* Statistically significant change over time

NOTE: For injuries, emergency department visits include discharges from the emergency department but exclude care resulting in hospitalizations.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis



Figure 12.35 Fall-Related Emergency Department Visits Among Residents Ages 65+ by Selected Indicators, 2015



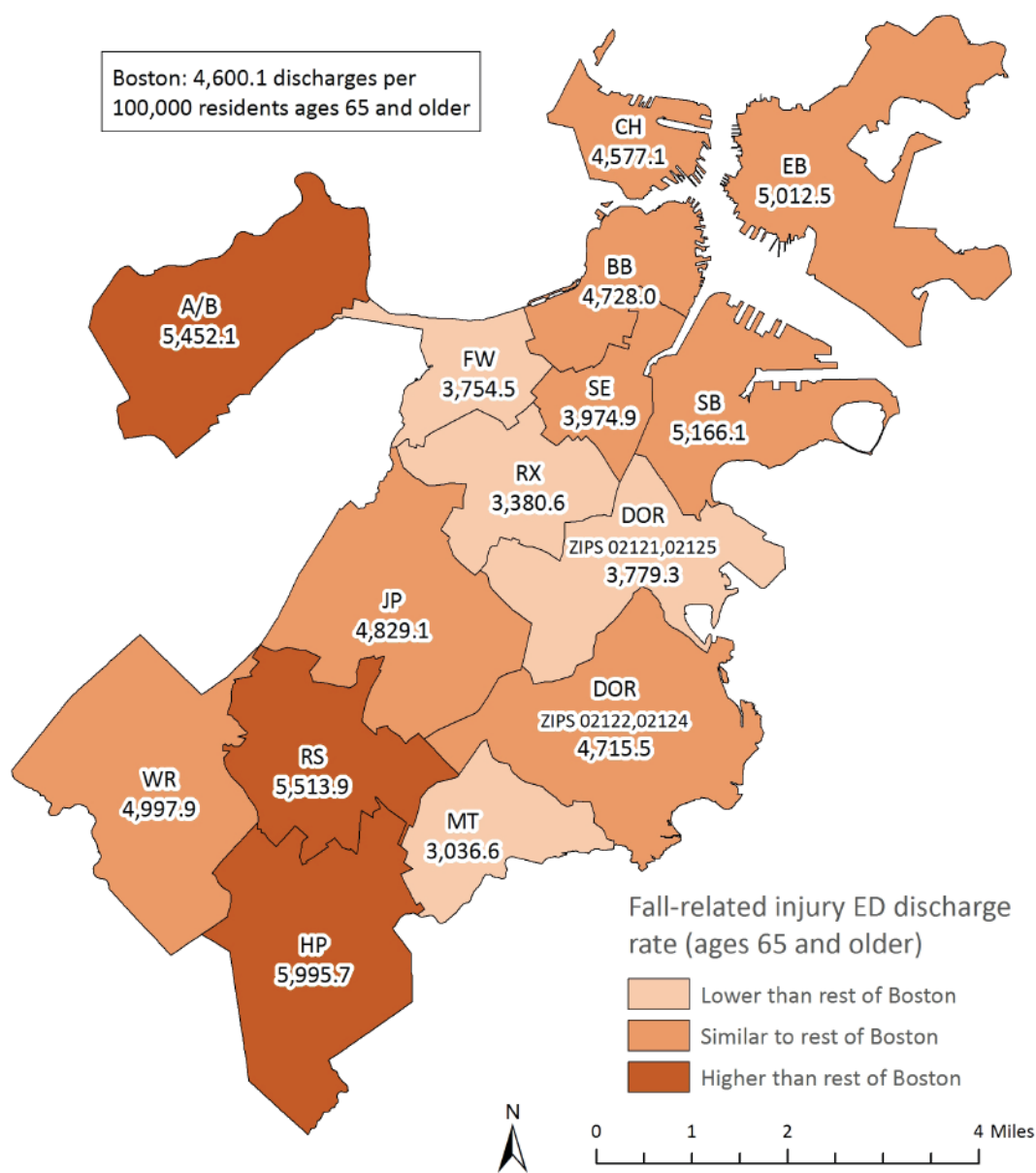
* Statistically significant difference when compared to reference group

NOTE: Bars with patterns indicate the reference group within each selected indicator. For injuries, emergency department visits include discharges from the emergency department but exclude care resulting in hospitalizations.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

In 2015, the rate for fall-related emergency department visits was 4,600.1 discharges per 100,000 residents ages 65 and older. The rate for females (5,087.1) was 30% higher than the rate for males (3,913.0). The rates were 52%, 32%, and 33% lower, respectively, for Asian (2,657.9), Black (3,797.9), and Latino residents (3,721.5) compared with White residents (5,548.1). The rates for adults ages 65-74 (3,831.5) and ages 75-84 (4,526.2) were lower than the rate for those ages 85 and older (7,488.3).

Figure 12.36 Fall-Related Injury Emergency Department Visits¹ by Neighborhood, 2015



¹ Rates per 100,000 residents ages 65 and older

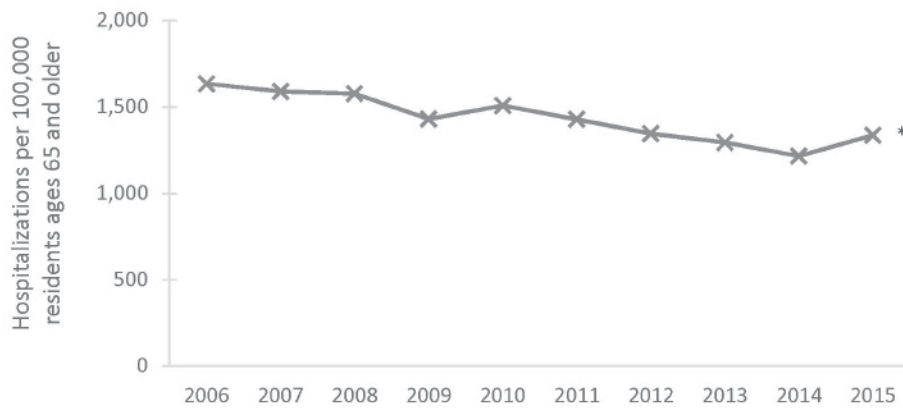
NOTE: "BB" includes the Back Bay, Beacon Hill, Downtown, the North End, and the West End.

"SE" includes the South End and Chinatown. For injuries, emergency department visits include discharges from the emergency department but exclude care resulting in hospitalizations.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

In 2015, the fall-related injury emergency department visit rate in Boston was 4,600.1 per 100,000 residents ages 65 and older. The rate was higher for Allston/Brighton, Hyde Park, and Roslindale compared with the rest of Boston. The rate was lower for Dorchester (zip codes 02121, 02125), Fenway, Mattapan, and Roxbury compared with the rest of Boston.

Figure 12.37 Fall-Related Hospitalizations
Among Residents Ages 65+ by Year



* Statistically significant change over time

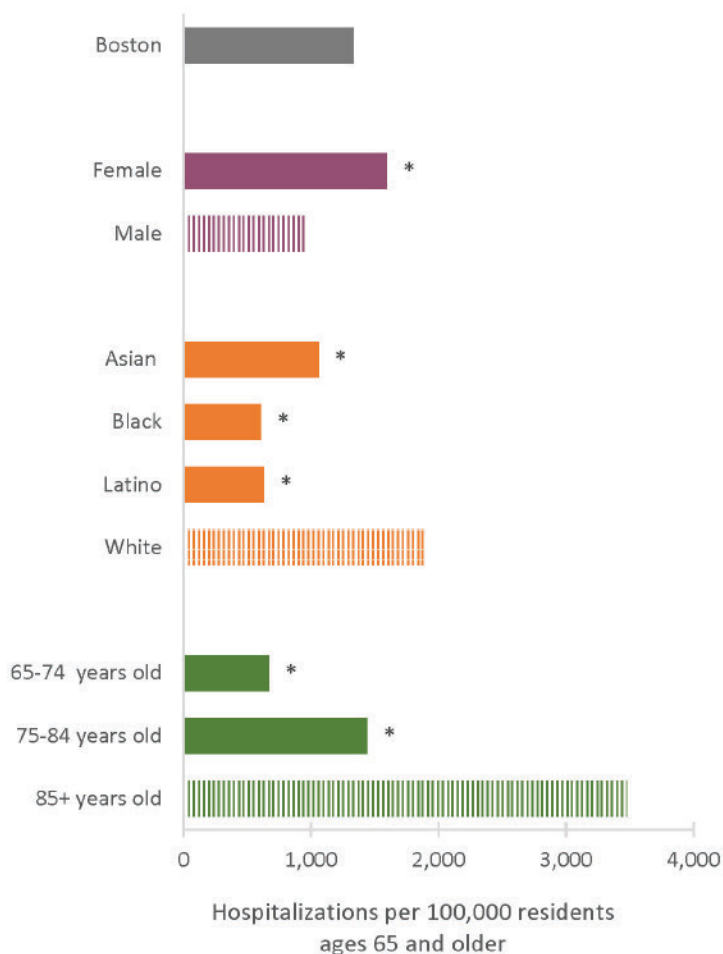
DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

In 2015, the fall-related hospitalization rate was 1,334.8 per 100,000 residents ages 65 and older. Between 2006 and 2015, the rate decreased by 24%.



In 2015, the fall-related hospitalization rate was 1,334.8 per 100,000 residents ages 65 and older. The rate for females (1,597.7) was 66% higher than the rate for males (963.8). The rates were 44%, 68%, and 67% lower, respectively, for Asian (1,060.1), Black (608.2), and Latino residents (630.3), compared with White residents (1,902.0). The rates for adults ages 65-74 (669.7) and 75-84 (1,442.2) were lower than the rate for those ages 85 and older (3,480.5).

Figure 12.38 Fall-Related Injury Hospitalizations Among Residents Ages 65+ by Selected Indicators, 2015

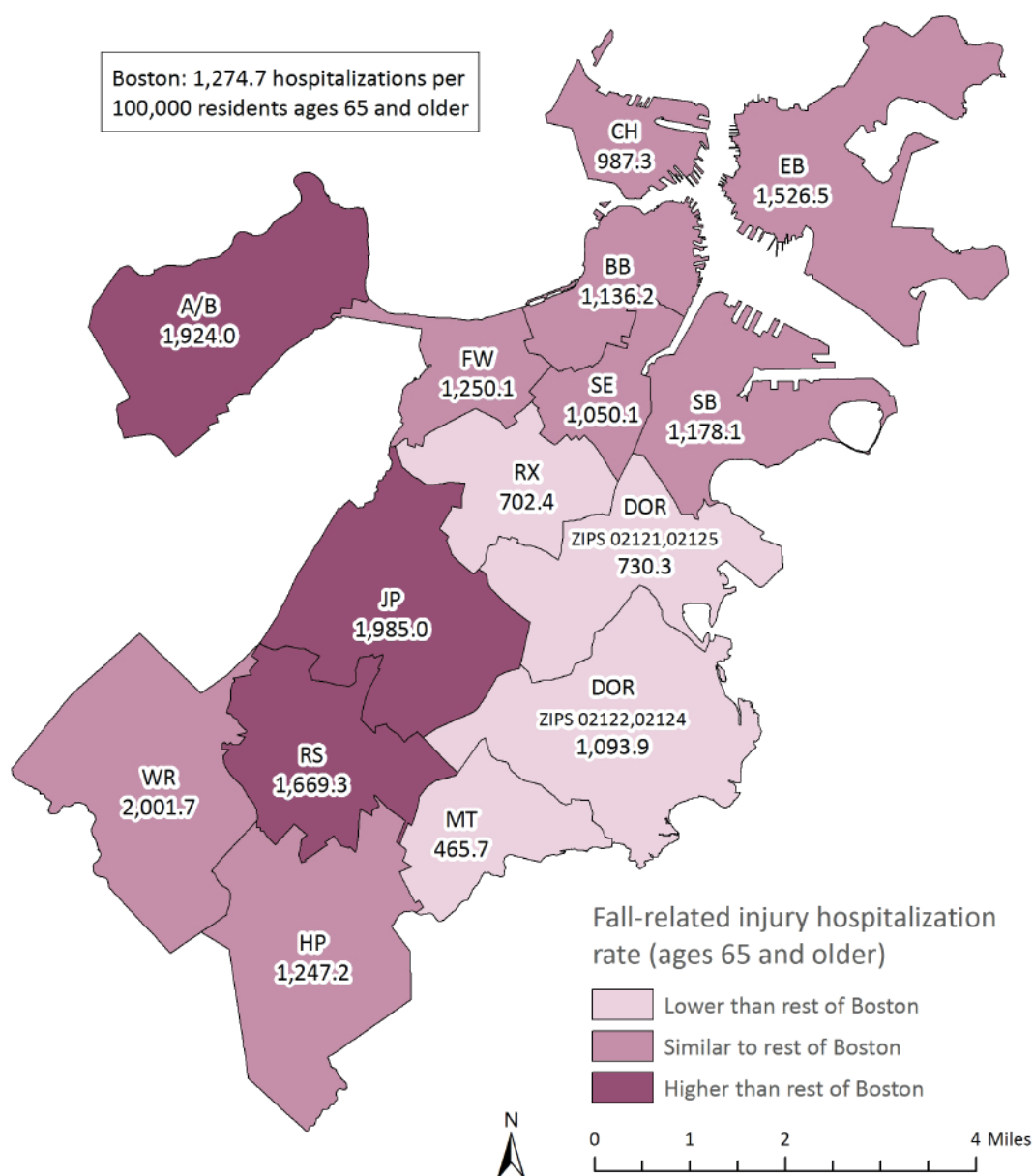


* Statistically significant difference when compared to reference group

NOTE: Bars with patterns indicate the reference group within each selected indicator.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

Figure 12.39 Fall-Related Injury Hospitalizations¹
by Neighborhood, 2014-2015



¹ 2-year average annual rates per 100,000 residents ages 65 and older

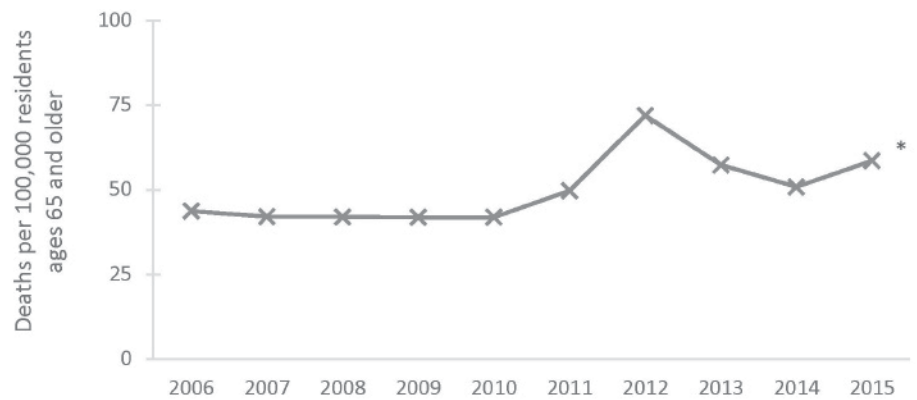
NOTE: "BB" includes the Back Bay, Beacon Hill, Downtown, the North End, and the West End.
"SE" includes the South End and Chinatown.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

During 2014-2015, the fall-related hospitalization rate in Boston was 1,274.7 per 100,000 residents ages 65 and older. The rate was higher for Allston/Brighton, Jamaica Plain, and Roslindale compared with the rest of Boston. The rate was lower for Dorchester (zip codes 02121, 02125), Dorchester (zip codes 02122, 02124), Mattapan, and Roxbury.

In 2015, the mortality rate for fall-related injuries was 58.5 deaths per 100,000 residents ages 65 and older. Between 2006 and 2015, the rate increased by 50%.

Figure 12.40 Fall-Related Injury Mortality
Among Residents Ages 65+ by Year



* Statistically significant change over time

DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health (data as of December 2016). Data may be updated as more information becomes available.

Elderly Fatal Falls

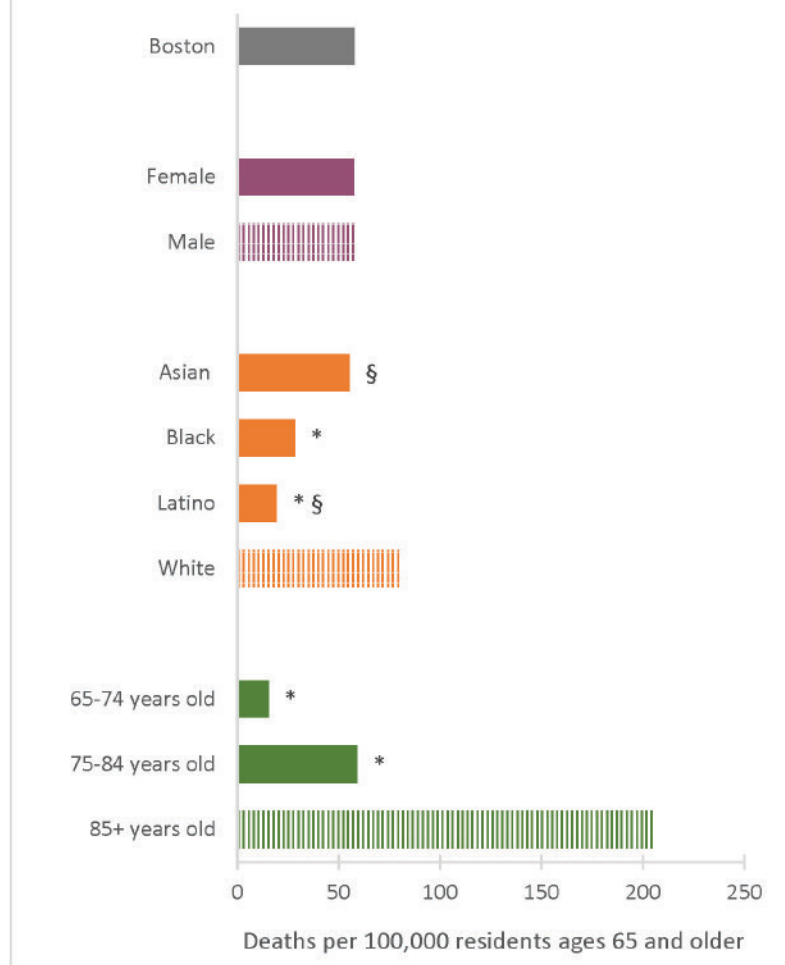
Healthy People 2020 Target: 47 deaths
per 100,000 population ages 65+

US 2010: 60.5

MA 2013: 56.2

Boston 2015: 50.1

Figure 12.41 Fall Related Injury Mortality¹ Among Residents Ages 65+ by Selected Indicators, 2011-2015



* Statistically significant difference when compared to reference group

§ Rates are based on 20 or fewer cases and should be interpreted with caution.

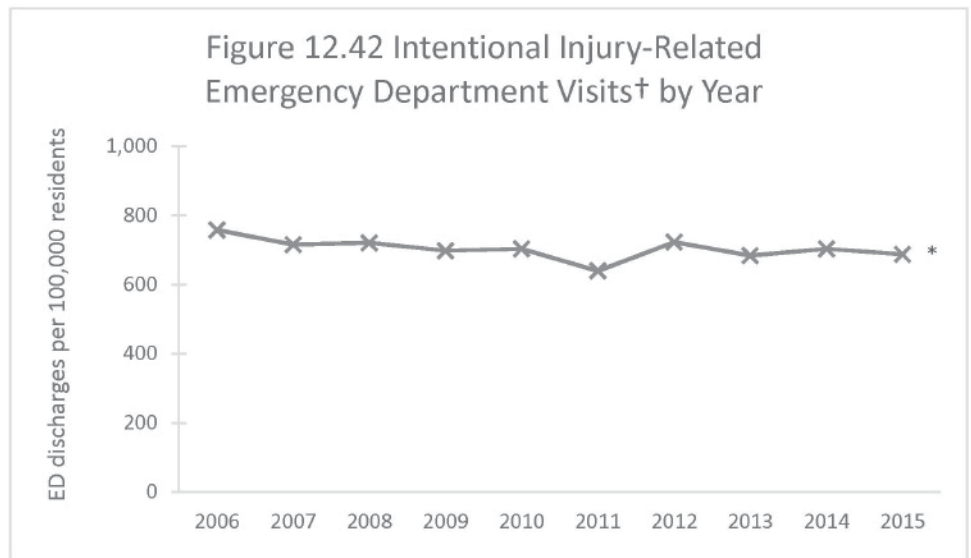
¹ 5-year average annual rates

NOTE: Bars with patterns indicate the reference group within each selected indicator.

DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health (data as of December 2016). Data may be updated as more information becomes available.

During 2011-2015, the fall-related injury mortality rate in Boston was 57.6 deaths per 100,000 residents ages 65 and older. The rates for Black (28.5) and Latino residents (19.5) were 65% and 76% lower, respectively, than the rate for White residents (81.0). The rates for those ages 65-74 (15.5) and 75-84 (59.2) were lower than that of adults ages 85 and older (205.7).

In 2015, the intentional injury-related rate for emergency department visits was 687.1 per 100,000 residents. Between 2006 and 2015, the rate decreased by 7%.



* Statistically significant change over time

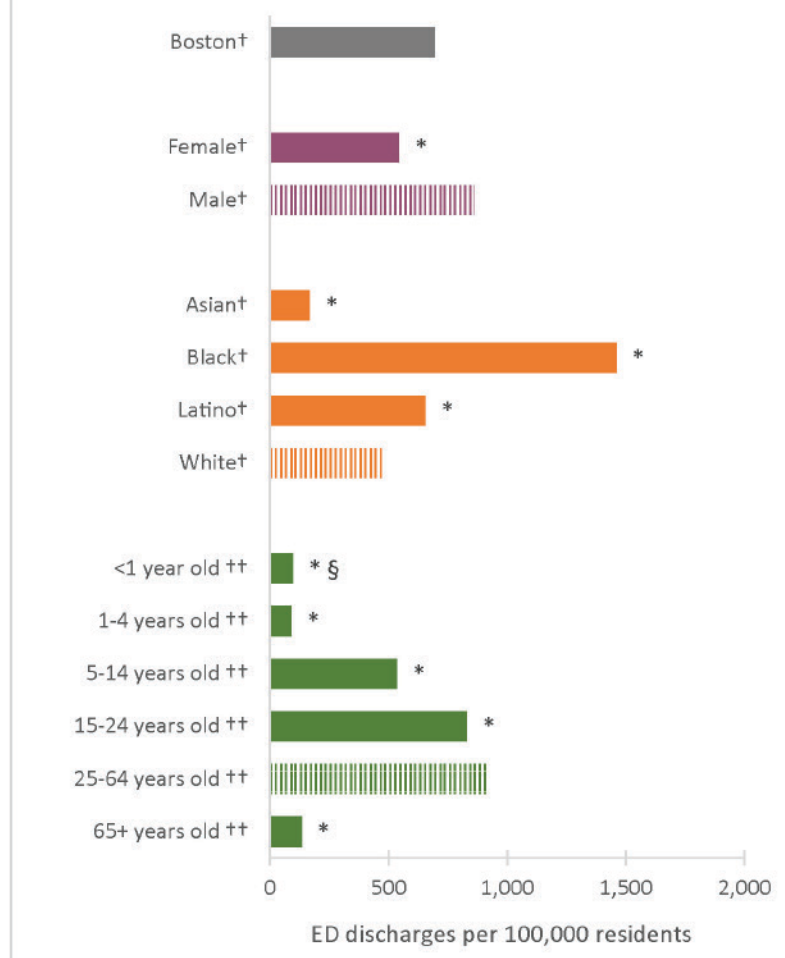
† Age-adjusted rates per 100,000 residents

NOTE: For injuries, emergency department visits include discharges from the emergency department but exclude care resulting in hospitalizations.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis



Figure 12.43 Intentional Injury-Related
Emergency Department Visits
by Selected Indicators, 2014-2015



* Statistically significant difference when compared to reference group

† 2-year average annual age-adjusted rates per 100,000 residents

†† 2-year average annual rates per 100,000 residents

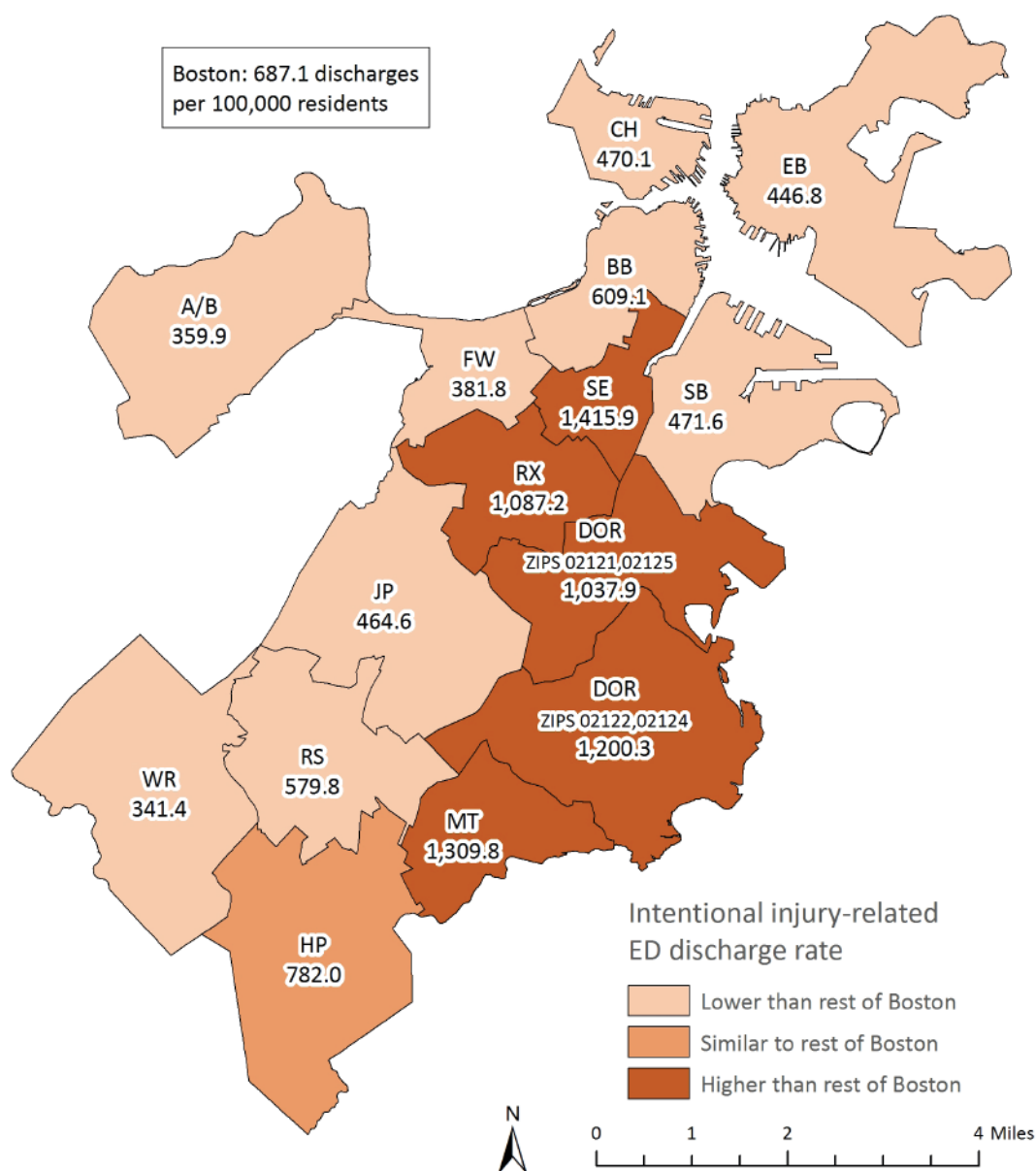
§ Rates are based on 20 or fewer cases and should be interpreted with caution.

NOTE: Bars with patterns indicate the reference group within each selected indicator. For injuries, emergency department visits include discharges from the emergency department but exclude care resulting in hospitalizations.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

During 2014-2015, the intentional injury-related rate for emergency department visits was 695.3 per 100,000 residents. The rate for females (544.7) was 37% lower than the rate for males (857.4). The rate for Asian residents (166.8) was 65% lower than the rate for White residents (471.4). The rate for Black residents (1,458.8) was 3.1 times the rate of White residents, and the rate for Latino residents (655.1) was 39% higher than the rate for White residents. The rates for all age groups were lower than the rate for those ages 25-64 (910.6).

Figure 12.44 Intentional Injury-Related Emergency Department (ED) Visits† by Neighborhood, 2015



† Age-adjusted rates per 100,000 residents

NOTE: "BB" includes the Back Bay, Beacon Hill, Downtown, the North End, and the West End.

"SE" includes the South End and Chinatown. For injuries, emergency department visits include discharges from the emergency department but exclude care resulting in hospitalizations.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

In 2015, the intentional injury-related emergency department visit rate in Boston was 687.1 per 100,000 residents. The rate was higher for Dorchester (zip codes 02121, 02125), Dorchester (zip codes 02122, 02124), Mattapan, Roxbury, and the South End. The rate was lower for Allston/Brighton, Back Bay, Charlestown, East Boston, Fenway, Jamaica Plain, Roslindale, South Boston, and West Roxbury.

Figure 12.45 Intentional Injury-Related Hospitalizations† by Year



* Statistically significant change over time

† Age-adjusted rates per 100,000 residents

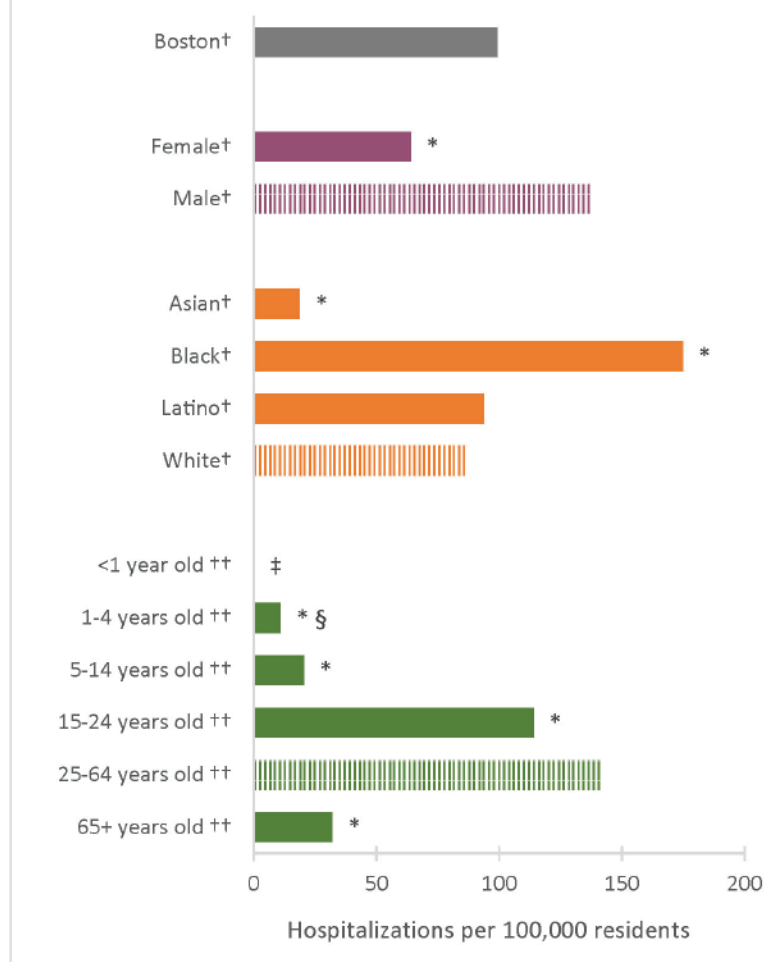
DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

In 2015, the intentional injury-related hospitalization rate was 91.8 per 100,000 residents. Between 2006 and 2015, the rate decreased by 33%.



During 2012-2015, the intentional injury-related hospitalization rate was 99.2 per 100,000 residents. The rate for females (64.0) was 53% lower than the rate for males (136.8). The rate for Asian residents (18.6) was 79% lower than the rate for White residents (86.8). The rate for Black residents (174.7) was 2 times the rate for White residents. The rate for those ages 1-4 (10.9), 5-14 (20.5), 15-24 (113.9), and 65+ (32.0) were all lower than the rate for those ages 25-64 (141.3).

Figure 12.46 Intentional Injury-Related Hospitalizations by Selected Indicators, 2012-2015



* Statistically significant difference when compared to reference group

† 4-year average annual age-adjusted rates per 100,000 residents

†† 4-year average annual rates per 100,000 residents

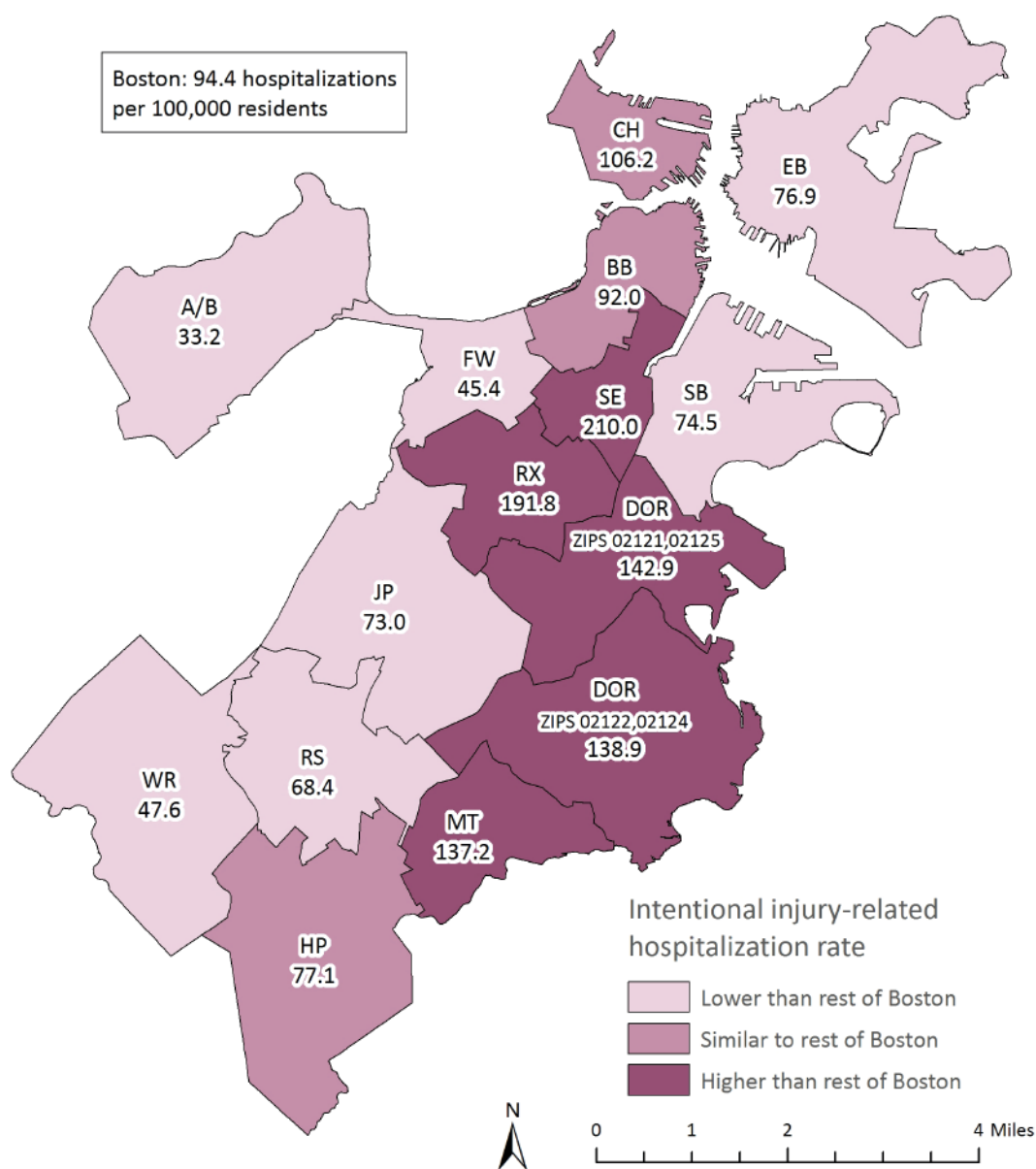
‡ Rates not presented due to a small number of cases

§ Rates are based on 20 or fewer cases and should be interpreted with caution.

NOTE: Bars with patterns indicate the reference group within each selected indicator.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

Figure 12.47 Intentional Injury-Related Hospitalizations†
by Neighborhood, 2014-2015



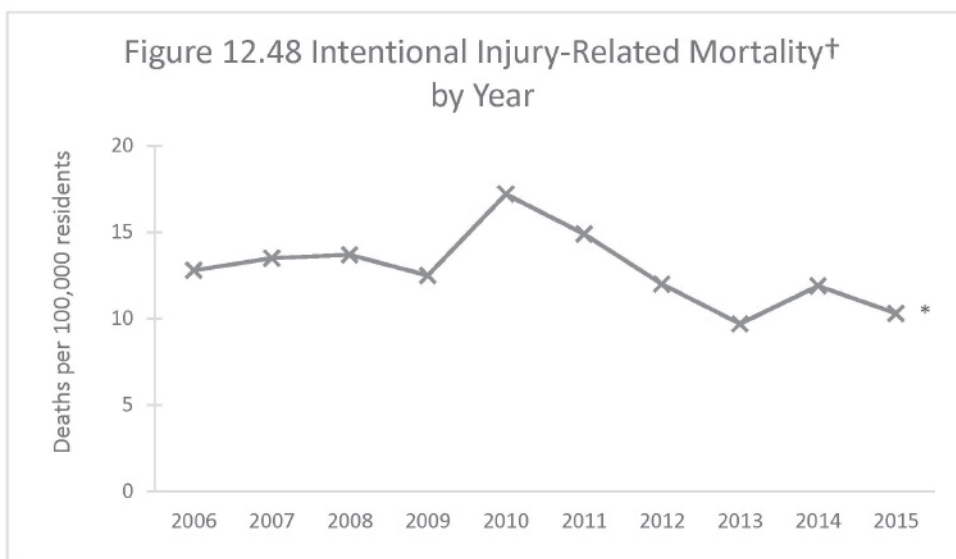
† 2-year average annual age-adjusted rates per 100,000 residents

NOTE: "BB" includes the Back Bay, Beacon Hill, Downtown, the North End, and the West End.
"SE" includes the South End and Chinatown.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

During 2014-2015, the intentional injury-related hospitalization rate in Boston was 94.4 per 100,000 residents. The rate was higher for Dorchester (zip codes 02121, 02125), Dorchester (zip codes 02122, 02124), Mattapan, Roxbury, and the South End. The rate was lower for Allston/Brighton, East Boston, Fenway, Jamaica Plain, Roslindale, South Boston, and West Roxbury.

In 2015, the intentional injury-related mortality rate was 10.3 deaths per 100,000 residents. Between 2006 and 2015, the rate decreased by 22%.



* Statistically significant change over time

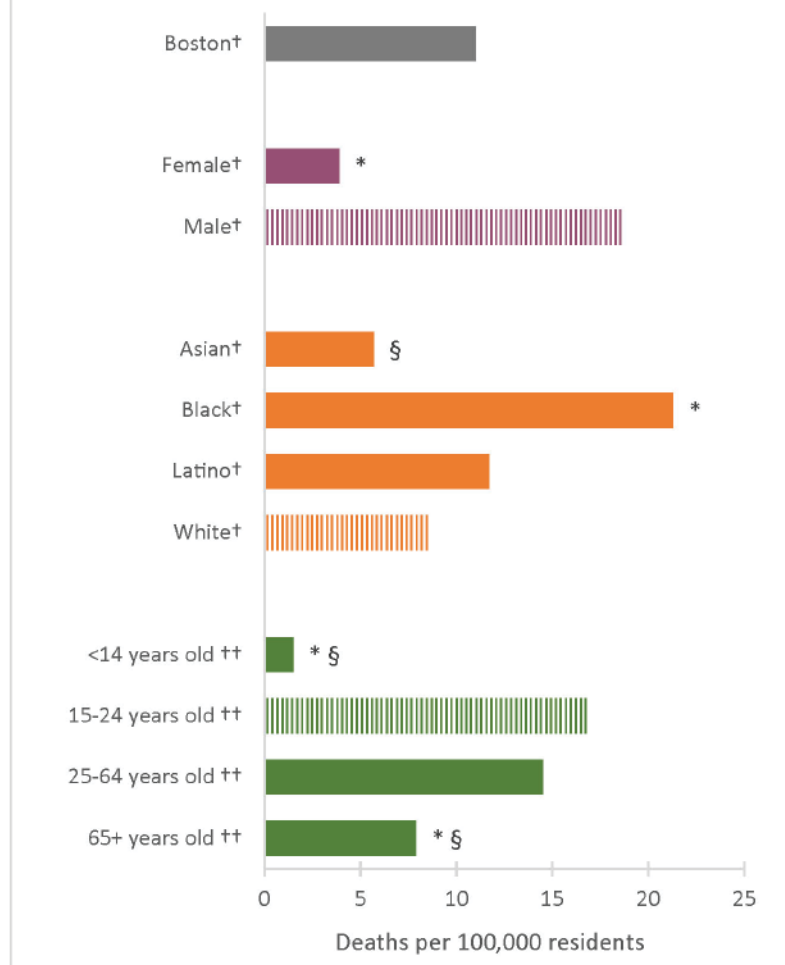
† Age-adjusted rates per 100,000 residents

NOTE: For more information on suicide, see Chapter 13: Mental Health.

DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health (data as of December 2016). Data may be updated as more information becomes available.



Figure 12.49 Intentional Injury-Related Mortality by Selected Indicators, 2012-2015



* Statistically significant difference when compared to reference group

† 4-year average annual age-adjusted rates per 100,000 residents

†† 4-year average annual rates per 100,000 residents

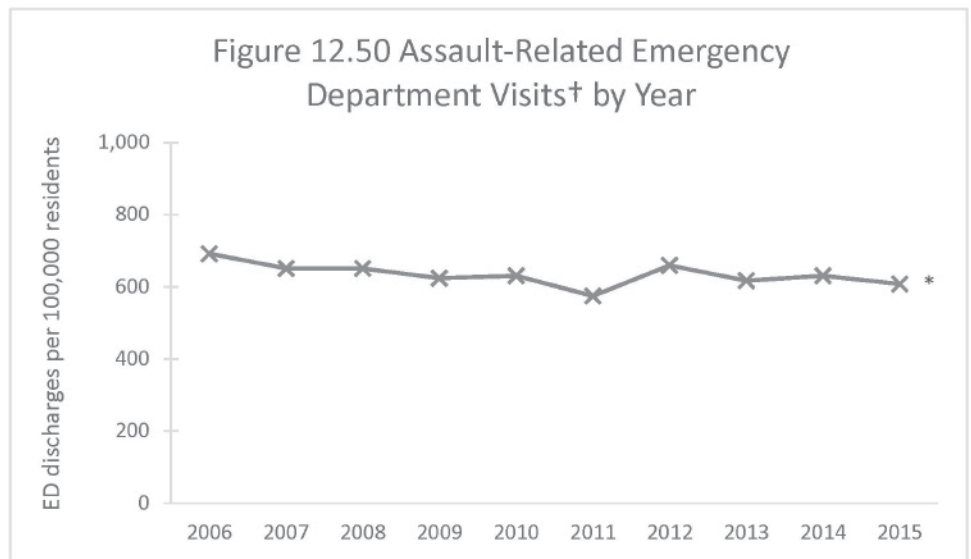
§ Rates are based on 20 or fewer cases and should be interpreted with caution.

NOTE: Bars with patterns indicate the reference group within each selected indicator. For more information on suicide, see Chapter 13: Mental Health.

DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health (data as of December 2016). Data may be updated as more information becomes available.

During 2012-2015, the intentional injury-related mortality rate was 11.0 deaths per 100,000 residents. The rate for females (3.9) was 79% lower than the rate for males (18.6). The rate for Black residents (21.3) was 2.5 times the rate for White residents (8.6). The rates for residents ages 14 and younger (1.5) and those ages 65 and older (7.9) were lower than that of residents ages 15-24 (16.9).

In 2015, the assault-related emergency department visit rate was 607.6 per 100,000 residents. Between 2006 and 2015, the rate decreased by 8%.



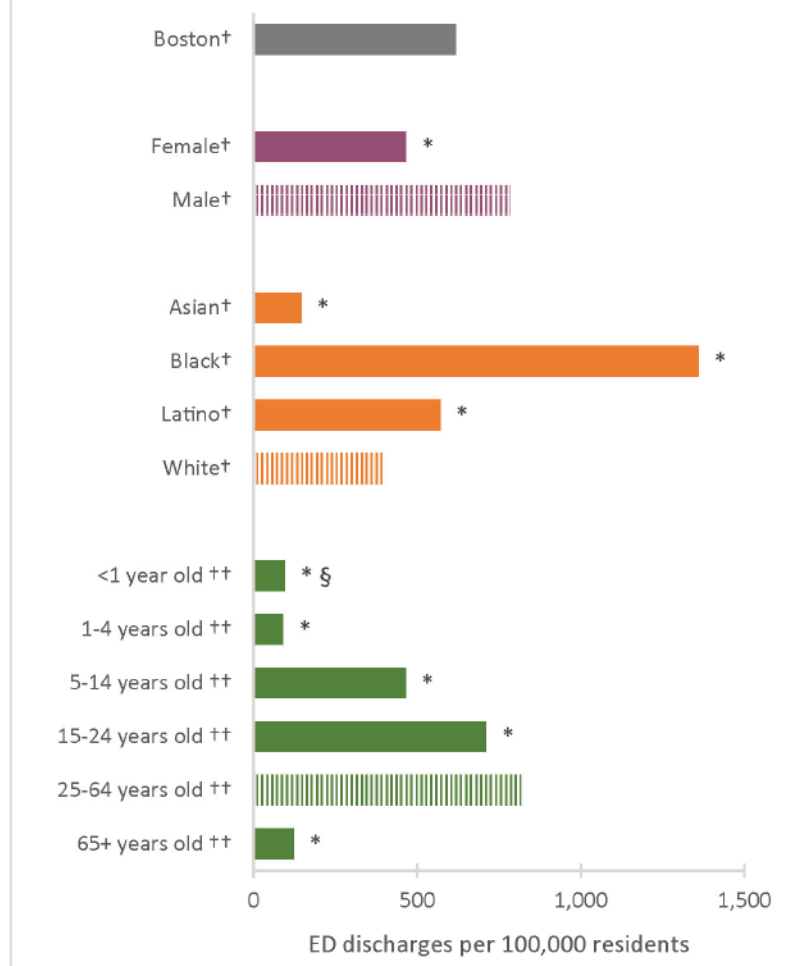
* Statistically significant change over time

† Age-adjusted rates per 100,000 residents

NOTE: For injuries, emergency department visits include discharges from the emergency department but exclude care resulting in hospitalizations.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

**Figure 12.51 Assault-Related Injury
Emergency Department Visits
by Selected Indicators, 2014-2015**



* Statistically significant difference when compared to reference group

† 2-year average annual age-adjusted rates per 100,000 residents

†† 2-year average annual rates per 100,000 residents

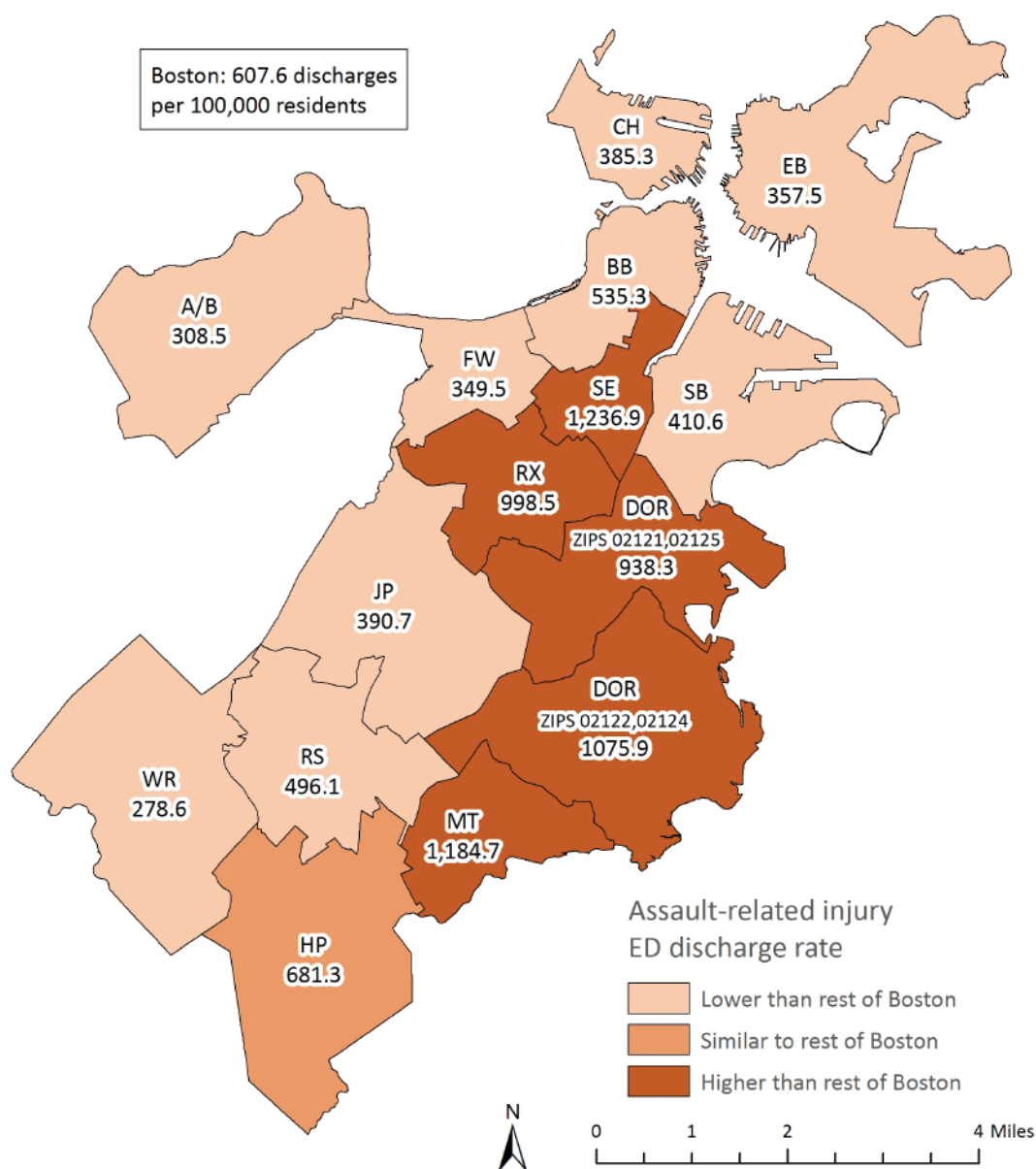
§ Rates are based on 20 or fewer cases and should be interpreted with caution.

NOTE: Bars with patterns indicate the reference group within each selected indicator. For injuries, emergency department visits include discharges from the emergency department but exclude care resulting in hospitalizations.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

During 2014-2015, the rate of assault-related injury emergency department visits was 619.0 per 100,000 residents. The rate for females (465.7) was 41% lower than the rate for males (783.6). The rate for Asian residents (145.4) was 63% lower than the rate for White residents (393.1). The rate for Black residents (1,360.2) was 3.5 times the rate for White residents, and the rate for Latinos was 45% higher (570.6) compared with White residents. The rates for all age groups were lower than the rate for those ages 25-64 (817.0).

Figure 12.52 Assault-Related Injury Emergency Department (ED) Visits† by Neighborhood, 2015



† Age-adjusted rates per 100,000 residents

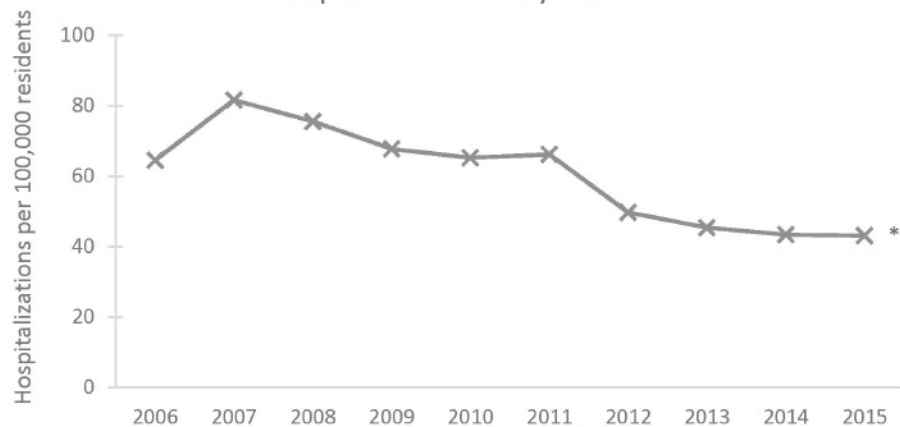
NOTE: "BB" includes the Back Bay, Beacon Hill, Downtown, the North End, and the West End.

"SE" includes the South End and Chinatown. For injuries, emergency department visits include discharges from the emergency department but exclude care resulting in hospitalizations.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

In 2015, assault-related injury emergency department visit rate in Boston was 607.6 per 100,000 residents. The rate was higher for Dorchester (zip codes 02121, 02125), Dorchester (zip codes 02122, 02124), Mattapan, Roxbury, and the South End. The rate was lower for Allston/Brighton, Back Bay, Charlestown, East Boston, Fenway, Jamaica Plain, Roslindale, South Boston, and West Roxbury.

Figure 12.53 Assault-Related Injury Hospitalizations† by Year



* Statistically significant change over time

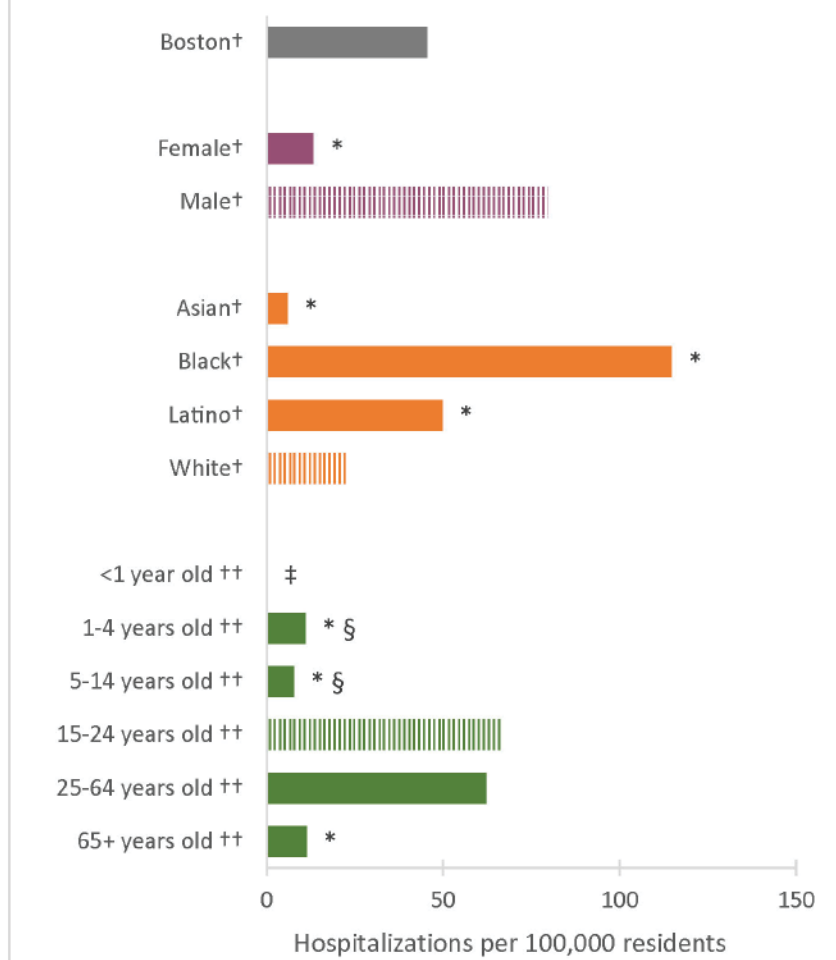
† Age-adjusted rates per 100,000 residents

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

In 2015, the assault-related injury hospitalization rate was 43.1 per 100,000 residents. Between 2006 and 2015, the rate decreased by 46%.

During 2012-2015, the assault-related injury hospitalization rate in Boston was 45.4 per 100,000 residents. The rate was 83% lower for females (13.2) compared with males (79.6). The rate was 74% lower for Asian residents (5.8) compared with White residents (22.3). The rates for Black (114.7) and Latino residents (49.8) were 5.1 times and 2.2 times, respectively, the rate of White residents. The rates for residents ages 1-4 (10.9), 5-14 (7.7), and 65 and older (11.2) were lower than that of residents ages 15-24 (66.5).

Figure 12.54 Assault-Related Injury Hospitalizations by Selected Indicators, 2012-2015



* Statistically significant difference when compared to reference group

† 4-year average annual age-adjusted rates per 100,000 residents

†† 4-year average annual rates per 100,000 residents

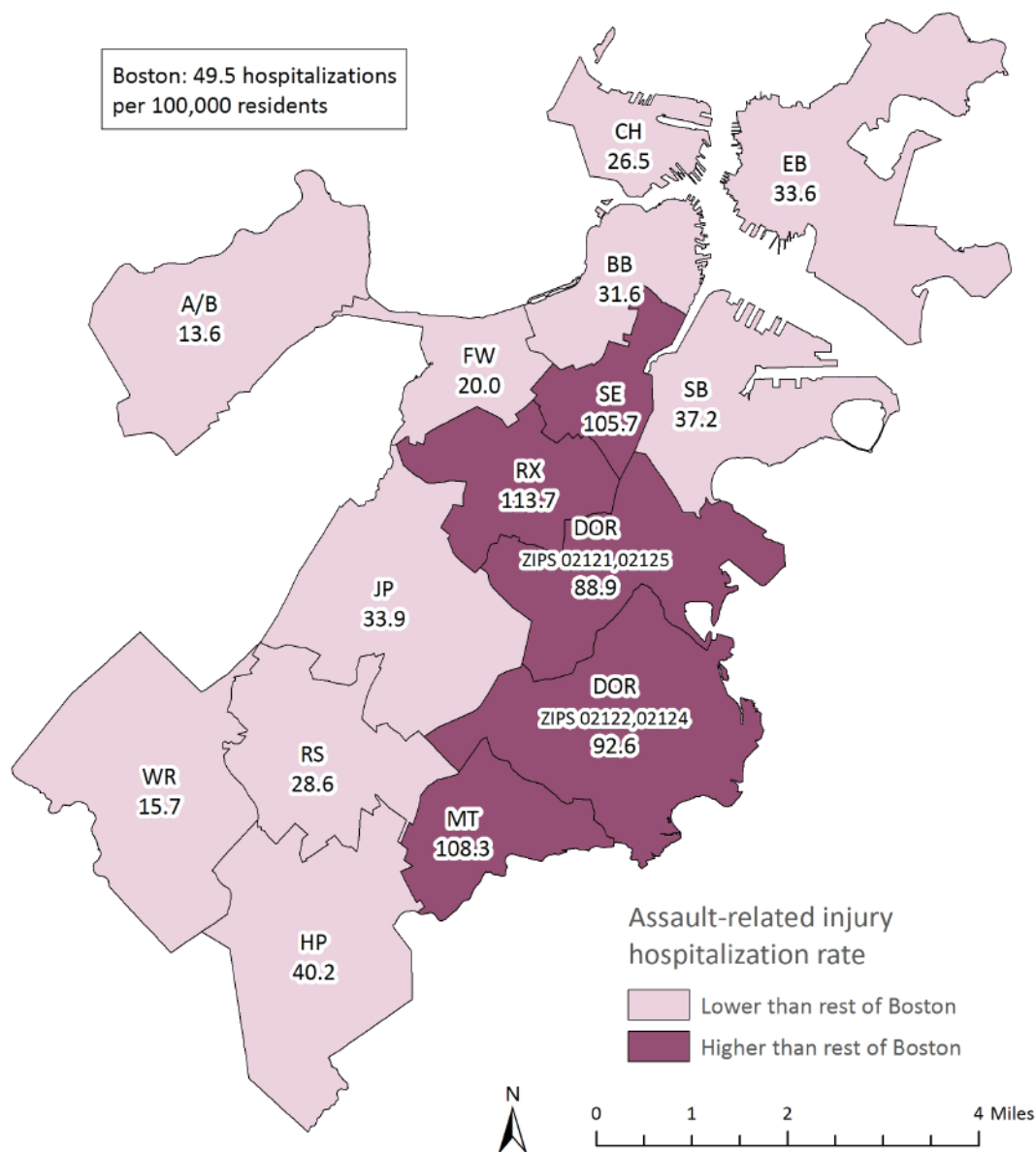
‡ Rates not presented due to a small number of cases

§ Rates are based on 20 or fewer cases and should be interpreted with caution.

NOTE: Bars with patterns indicate the reference group within each selected indicator.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

Figure 12.55 Assault-Related Injury Hospitalizations†
by Neighborhood, 2011-2015



† 5-year average annual age-adjusted rates per 100,000 residents

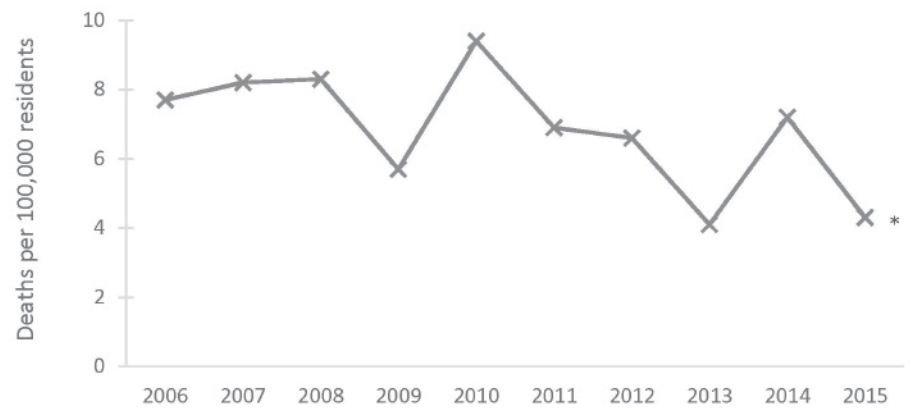
NOTE: "BB" includes the Back Bay, Beacon Hill, Downtown, the North End, and the West End.
"SE" includes the South End and Chinatown.

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

For 2011-2015, the assault-related injury hospitalization rate in Boston was 49.5 per 100,000 residents. The rate was higher for Dorchester (zip codes 02121, 02125), Dorchester (zip codes 02122, 02124), Mattapan, Roxbury, and the South End. The rate was lower for Allston/Brighton, Back Bay, Charlestown, East Boston, Fenway, Hyde Park, Jamaica Plain, Roslindale, South Boston, and West Roxbury.

In 2015, there were 4.3 deaths per 100,000 residents due to homicide. Between 2006 and 2015, the homicide rate decreased by 37%.

Figure 12.56 Homicide† by Year



* Statistically significant change over time

† Age-adjusted rates per 100,000 residents

DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health (data as of December 2016). Data may be updated as more information becomes available.

Homicide

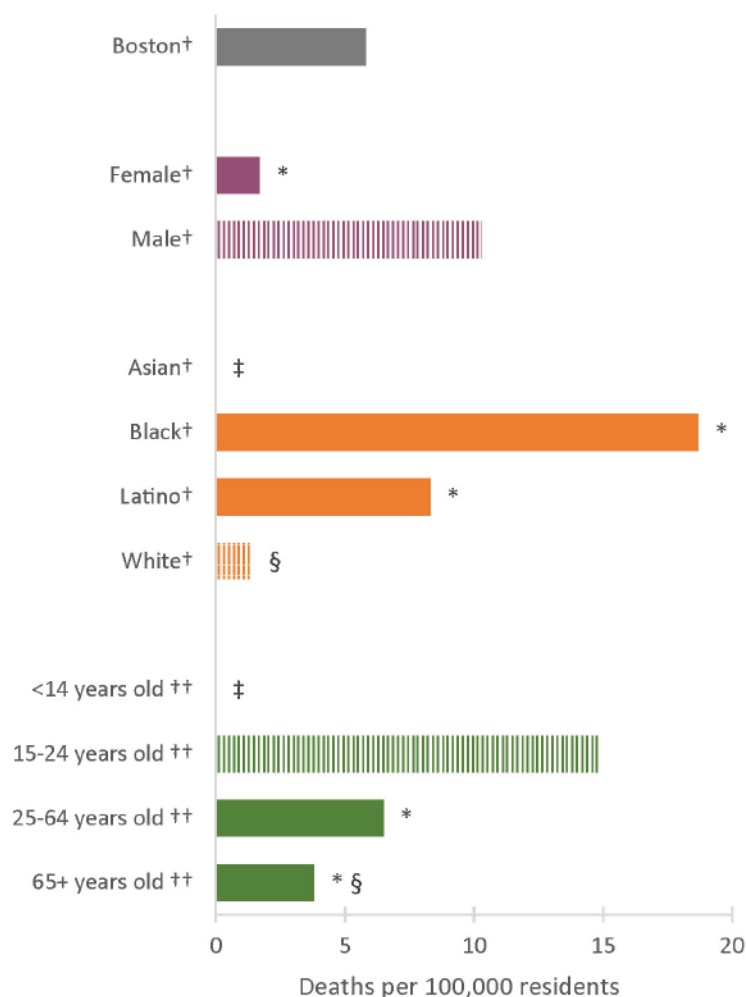
Healthy People 2020 Target: 5.5 deaths per 100,000 population

US 2015: 5.7

MA 2015: 2.1

Boston 2015: 4.3

Figure 12.57 Homicide by Selected Indicators, 2011-2015



* Statistically significant difference when compared to reference group

† 5-year average annual age-adjusted rates per 100,000 residents

†† 5-year average annual rates per 100,000 residents

‡ Rates not presented due to a small number of cases

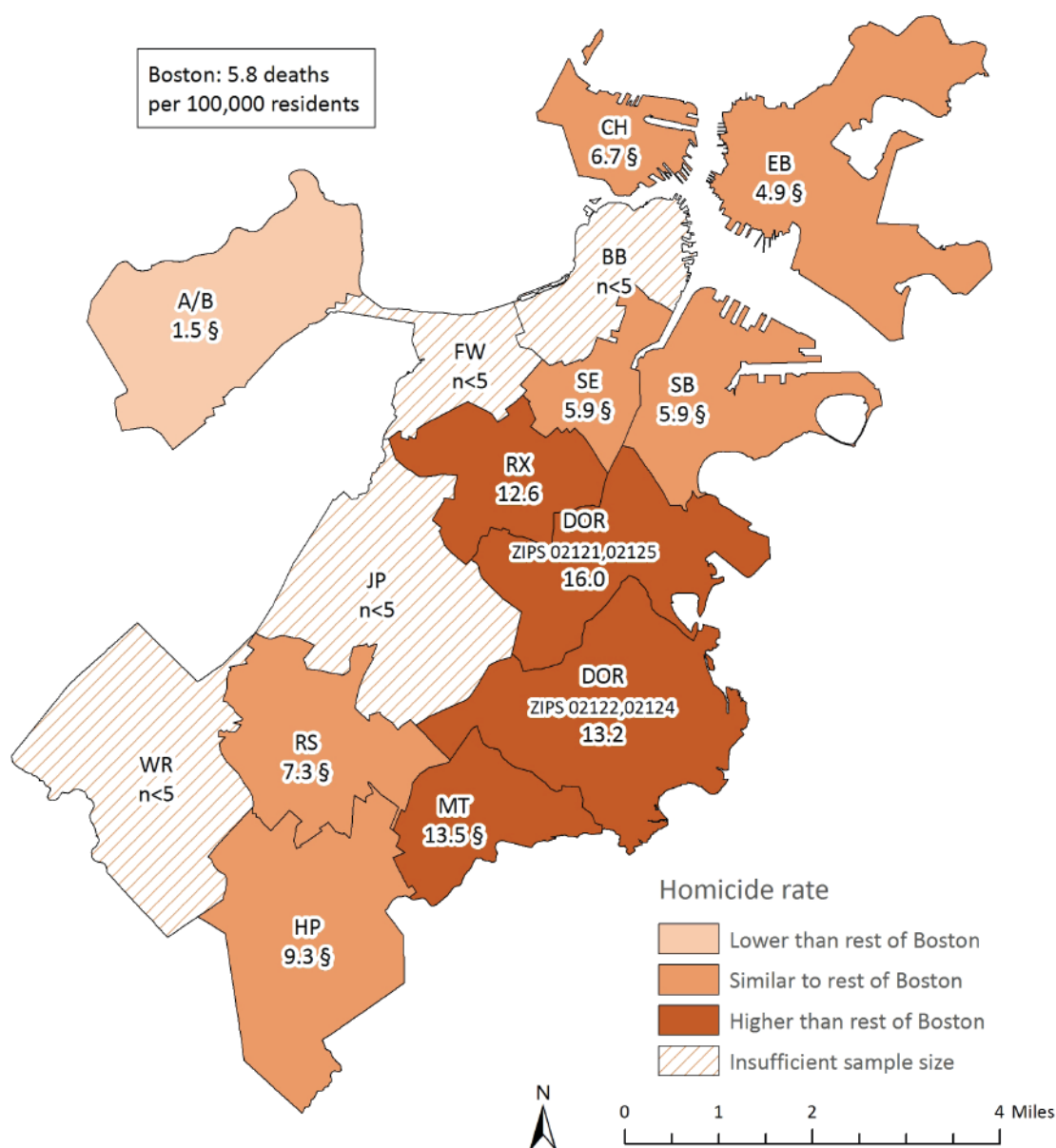
§ Rates are based on 20 or fewer cases and should be interpreted with caution.

NOTE: Bars with patterns indicate the reference group within each selected indicator.

DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health (data as of December 2016). Data may be updated as more information becomes available.

During 2011-2015, the homicide rate in Boston was 5.8 deaths per 100,000 residents. The homicide rate for females (1.7) was 84% lower than the rate for males (10.3). Black (18.7) and Latino residents (8.3) had homicide rates that were approximately 14 times and 6 times, respectively, the rate of White residents (1.4). The rates for those ages 25-64 (6.5) and 65 and older (3.8) were lower than the rate for those ages 15-24 (14.9).

Figure 12.58 Homicide† by Neighborhood, 2011-2015



† 5-year average annual age-adjusted rates per 100,000 residents

§ Rates are based on 20 or fewer cases and should be interpreted with caution.

NOTE: "BB" includes the Back Bay, Beacon Hill, Downtown, the North End, and the West End. "SE" includes the South End and Chinatown.

DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health (data as of December 2016). Data may be updated as more information becomes available.

During 2011-2015, the homicide rate in Boston was 5.8 deaths per 100,000 residents. The rate was higher for Dorchester (zip codes 02121, 02125), Dorchester (zip codes 02122, 02124), Mattapan, and Roxbury compared with the rest of Boston. The rate was lower for Allston/Brighton compared with the rest of Boston.

Summary

In 2015, the City of Boston met Healthy People 2020 targets for indicators related to injury and exposure to violence, including adolescent bullying, injury-related hospitalizations, and injury mortality including homicides. Between the years 2006 and 2015, Boston also experienced improvement for a number of other indicators, including assault-related injury emergency department visits and hospitalizations; intentional injury-related emergency department visits, hospitalizations and mortality; unintentional injury-related emergency department visits and hospitalizations; and fall-related injury hospitalizations among elderly residents.

Healthy People 2020 targets were not met in 2015 for injury-related emergency department visits, and unintentional injury-related mortality, including falls among elderly residents. However, the all injury-related rate of emergency department visits decreased by 3% from 2006 to 2015, and the unintentional injury-related mortality remained stable over the same time period. In contrast, the mortality rate for fall-related injuries among elderly residents increased by 50% from 2006 to 2015. Similarly, the emergency department visit rate for fall-related injuries among elderly residents increased by 19% over the same time period.

While Boston experienced improvement or met Healthy People 2020 targets for many indicators of injury and exposure to violence, we identified inequities across categories of age, sex, race/ethnicity, and neighborhood. The leading types of injury mortality varied by age and racial/ethnic group between the years 2011 and 2015. Homicide, accidental poisonings, and accidental falls were the leading causes of injury mortality for those ages 15-24, 25-64, and 65 and older, respectively. The leading causes across racial/ethnic groups were accidental falls, homicide by firearm, and accidental poisonings for Asian residents, Black residents, and both Latino and White residents, respectively.

Data collected from recent surveys of the Boston Behavioral Risk Factor Surveillance System indicate the percentage of adult residents experiencing physical and sexual violence, including sexual assault, in one's lifetime was higher for females than for males. Similarly, among Boston public high school students, a higher percentage of females reported being bullied than males in 2015. Emergency department visits, hospitalizations, and mortality for all injuries and intentional injuries, were higher for male residents than females. Over various time periods, the intentional injury-related emergency department visits (2014-2015), hospitalization (2012-2015), and mortality (2012-2015) rates were higher for Black residents than for White residents. The neighborhoods with elevated rates for injuries also vary according to the type of injury. For example, higher rates of both elderly fall-related emergency department visits and hospitalizations were observed in Allston/Brighton and Roslindale. Higher rates of all injury-related emergency department visits and hospitalizations were observed in Dorchester (zip codes 02122, 02124), Hyde Park, and South End. Higher rates of intentional injury-related emergency department visits and hospitalizations were observed in Dorchester (zip codes 02121, 02125), Dorchester (zip codes 02122, 02124), Mattapan, Roxbury, and South End.

Injury and Exposure to Violence



The homicide rate among all residents decreased 37%

2006



2015

Between 2011 and 2015, the leading types of injury mortality for residents varied by age group

**15 to 24 year olds:
Homicide by firearm**



**25 to 64 year olds:
Accidental poisoning
(includes drug overdose)**



**65 years and older:
Accidental falls**



56% of Boston adult residents felt their neighborhood was unsafe



Our Point of View: Thoughts from public health

Making Boston a Trauma-Sensitive City

By Deborah Allen

Child, Adolescent and Family Health Bureau Director, 2008-2017

Boston Public Health Commission

When we look at violence on TV or in the movies, the message is pretty simple: bad people do bad things; we have to stop them. It's a job for law enforcement. When we look at violence in the real world it's more complicated. There are fluctuations in violence over time, and patterns of violence within communities, that show there is more at work than a few bad people. Public health workers ask what factors cause these patterns and how we can address them. The goal? Stop the spread of violence just as we might stop the spread of HIV, cancer, or heart disease.

Our first thought in public health goes to what we call primary prevention – how do we prevent exposure to the factors that may cause violence? One part of the answer: start with the basics. Community violence throughout the U.S., including Boston, occurs most in communities with high rates of unemployment and poverty; communities in which residents feel marginalized by racism and discrimination. So, one job of public health is to promote public policies that promote social equality; policies like criminal justice reform, fair housing laws and low-cost education. Policies that reduce the flow of guns into our communities are also part of this picture. A second part of the answer: start young. We need to teach children ways to solve problems using negotiation and empathy. BPHC programs aimed at building early childhood social and emotional health and youth development programs that arm kids not with guns but with an understanding of how conflicts escalate – these are forms of primary prevention.

We need to think next about secondary prevention, intervening where violence has occurred to mitigate its effects. Astonishingly, more than half of Boston's school children know someone who has been murdered. That is not an experience a child can simply process and leave behind. Exposure to violence causes stress. Repeated exposure may cause chronic stress. Over time, that takes a toll on every aspect of health, including psychological health. Our strategy: let's make Boston a trauma sensitive city. The Mayor has established Neighborhood Trauma Teams in five high-risk communities with a backup citywide team to support residents through outreach, neighborhood engagement, and specialized mental health counseling. To ensure a focus on children and youth exposed to violence, BPHC programs have trained approximately 2,500 youth workers, over 100 clinicians, 50 public school employees, and 200 maternal and child health workers to recognize and respond appropriately to trauma. We want every adult who works with kids, every social service worker, every teacher, policeperson, librarian, and doctor to recognize that when someone's angry, sad or withdrawn this behavior likely reflects a history of trauma rather than a personal failure or character flaw- and to respond appropriately based on this understanding.

And finally, tertiary prevention. Boston's state-funded Safe and Successful Youth (SSY) program seeks out those who are at highest risk of engaging in or being victimized by violence. They are young men who have been in and out of juvenile detention or jail, have histories of past violence, or have seen multiple friends and relatives fall victim to violence. SSY works with citywide partners to offer them intensive case management and support, job training and placement, mental health and social services -- whatever it takes for them to get beyond the history that puts them at risk.

The fact is, TV violence is not just simple, it's simplistic. Too many lives get thrown away --whether as victims or perpetrators of violence -- if we miss the chance for prevention at every step of the way.

Our Point of View: Thoughts from a community resident

It takes a team to keep kids safe

By Capravion

Capravion works for Project Right, Inc.

My name is Capravion. I am a block captain for the Violence Intervention and Prevention Project in Grove Hall. I work with the King and Pilot middle schools making sure the students get home from school safely each day.

That might sound easy. Unfortunately, when the students leave school, there can be a lot of trouble waiting for them - from violence to gang activity. We once had a student who went to the basketball courts after school to find other kids waiting there to rob him for his shoes. It takes a whole team working together to keep our kids safe. We have someone outside the school meeting the kids at let out and then others walking the designated safe routes, communicating any problems that come up.

We also try to be very involved in the community - because it's not just about building relationships with the kids but also building respect and trust with their parents. We sponsor lots of events like Grooves in Grove and Arts Outside that give the whole community an opportunity to come together in a safe, fun environment. We also have flag football and basketball leagues for kids who aren't old enough or can't play in other leagues. Keeping them busy provides a safe alternative to the street lifestyle that they often witness and try to emulate even at a young age.

This program is so positive, and we always try to make it better. I do wish there were more opportunities to engage with block captains from other neighborhoods to share ideas and learn from each other. I also wish there was more out-of-school programming available, particularly arts programming. A lot of kids like sports, but there are others who would be interested in music and dancing but haven't had the chance or feel like they can't because it is "uncool." I also think it would be cool to work with the MBTA so the students who use public transportation also feel safe and comfortable getting home because we hear a lot of these kids say that they don't feel safe.

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